FIG.1A

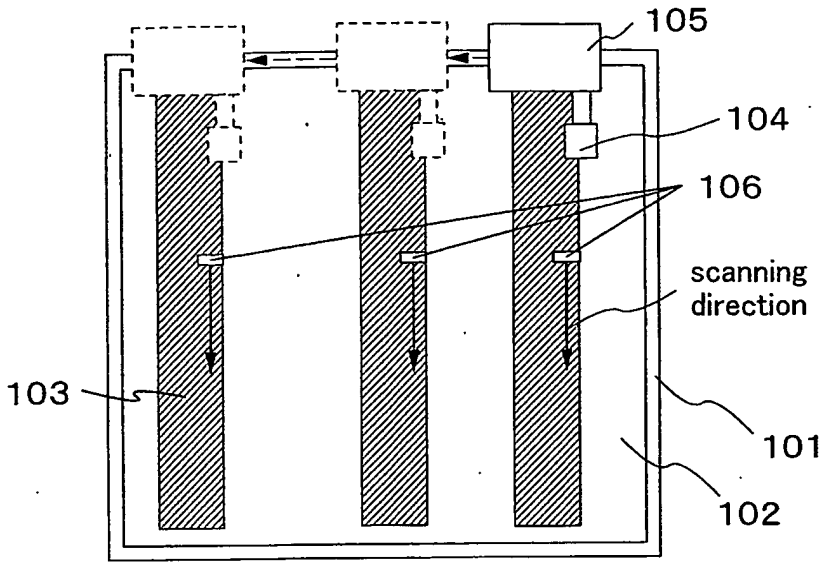

105
104
106
scanning direction
103
101
102

FIG.1B

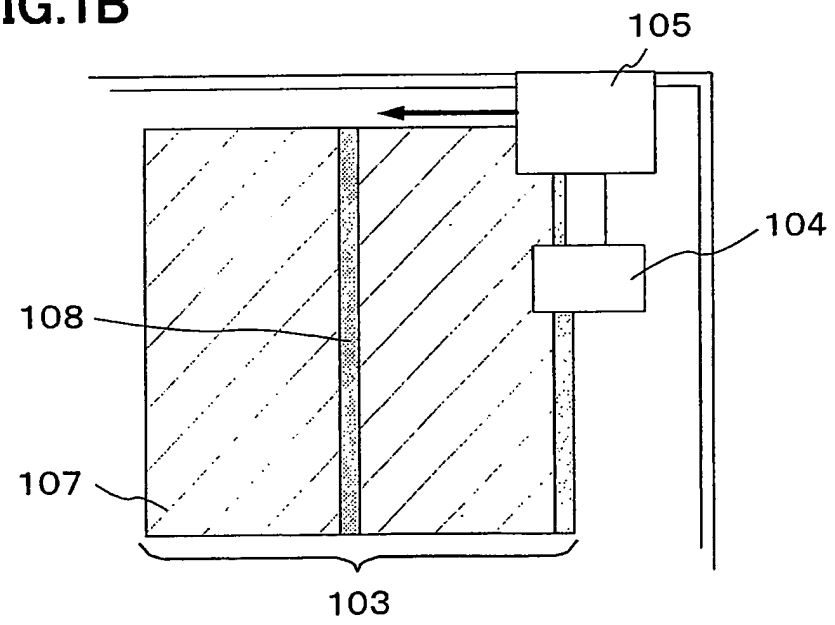

105
104
108
107
103

FIG.2A

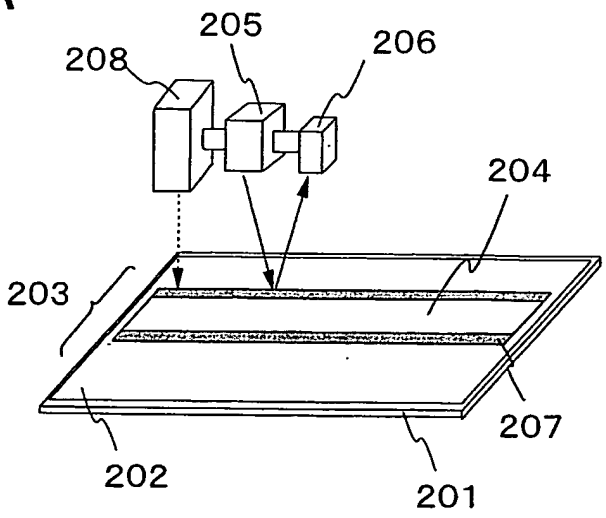


FIG.2B

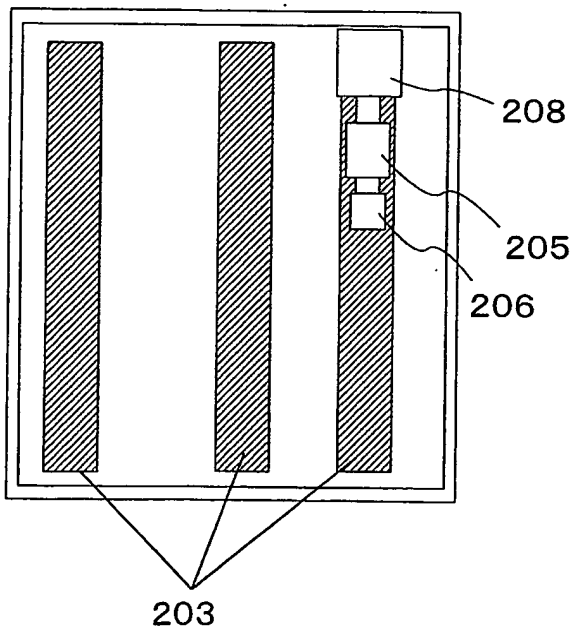


FIG.3A

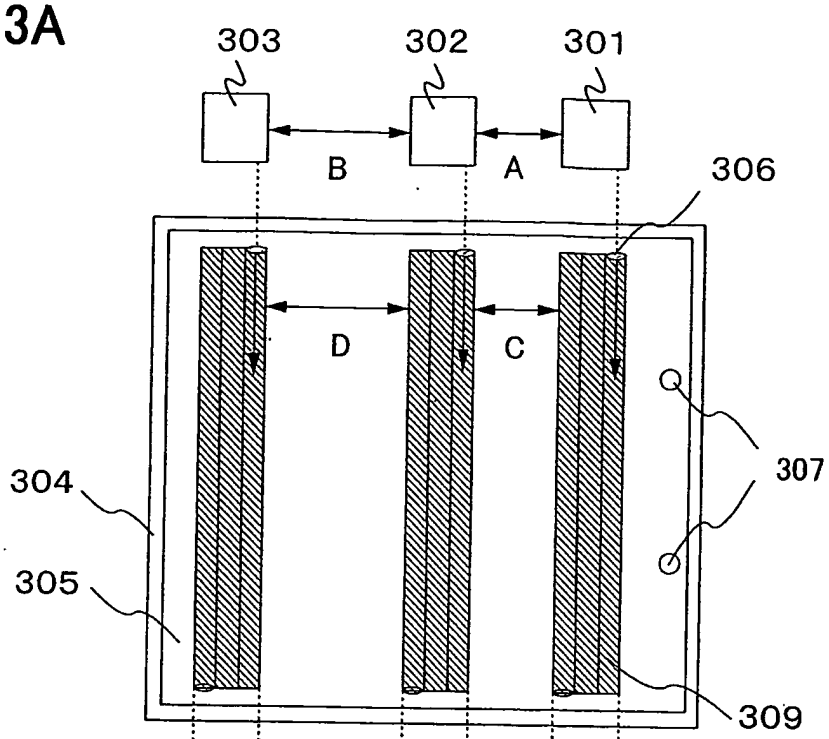


FIG.3B

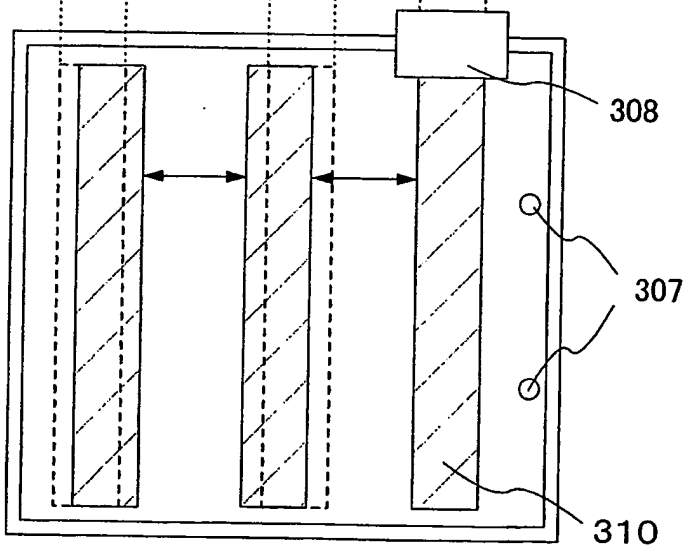


FIG.4

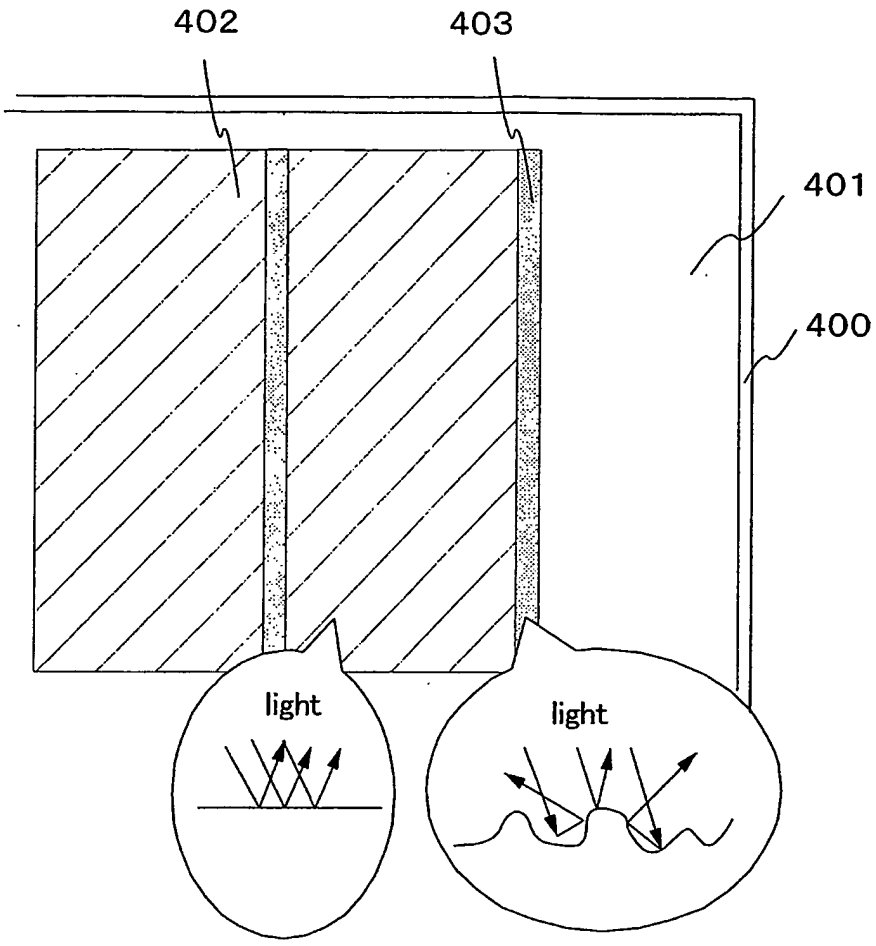


FIG.5

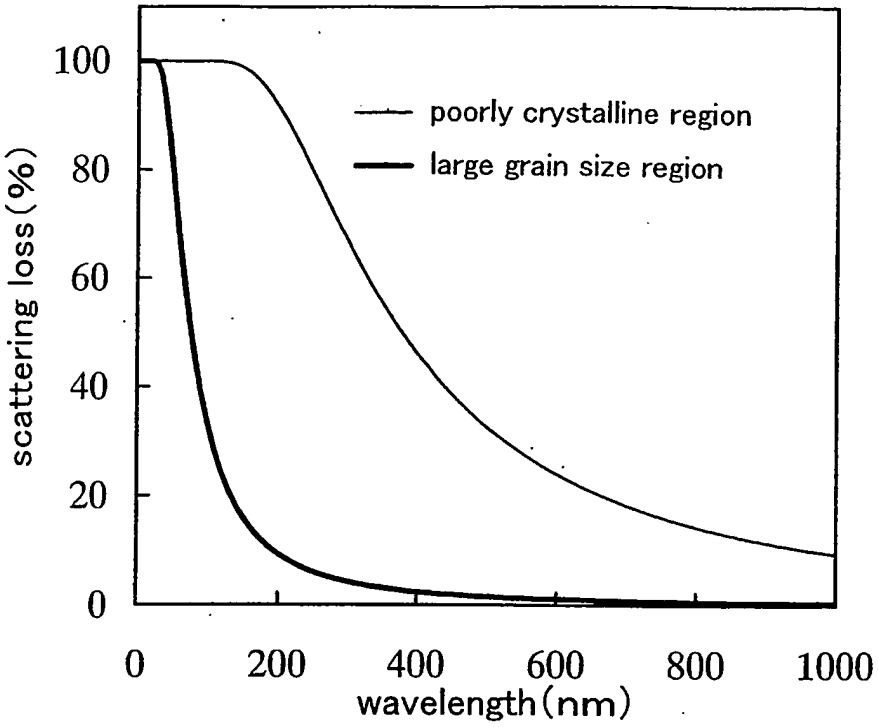

100
80
60
40
20
0
scattering loss (%)
poorly crystalline region
large grain size region
0
200
400
600
800
1000
wavelength (nm)

FIG.6A

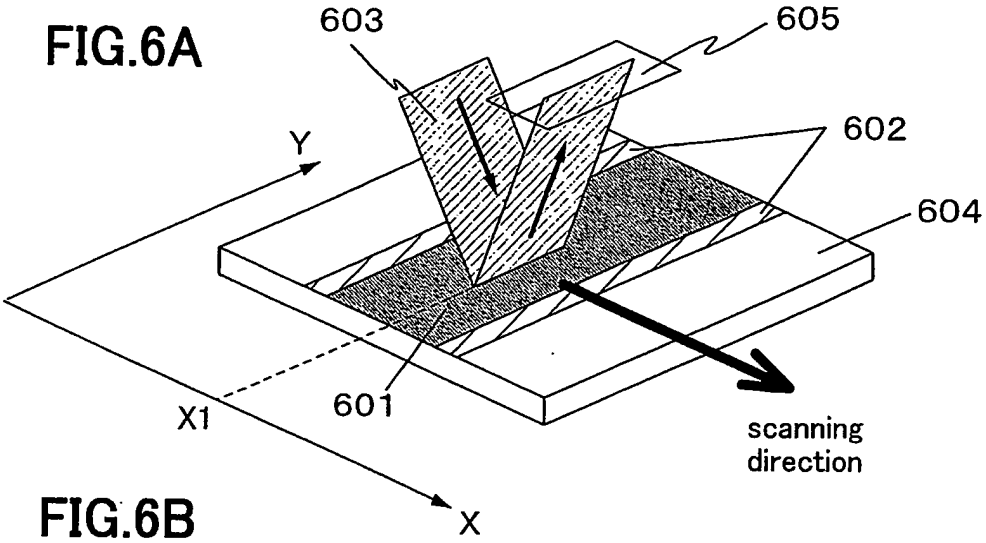


FIG.6B

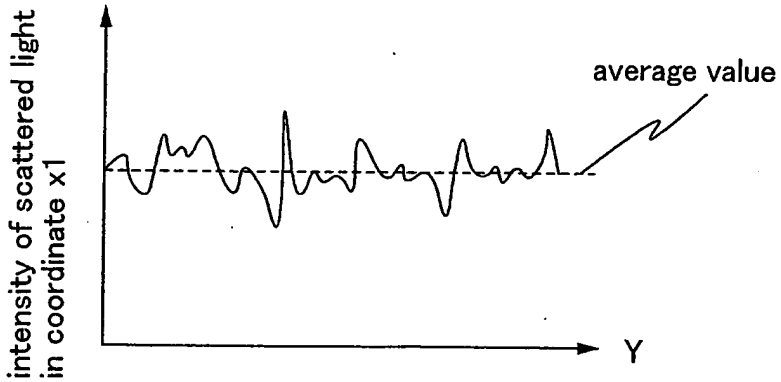
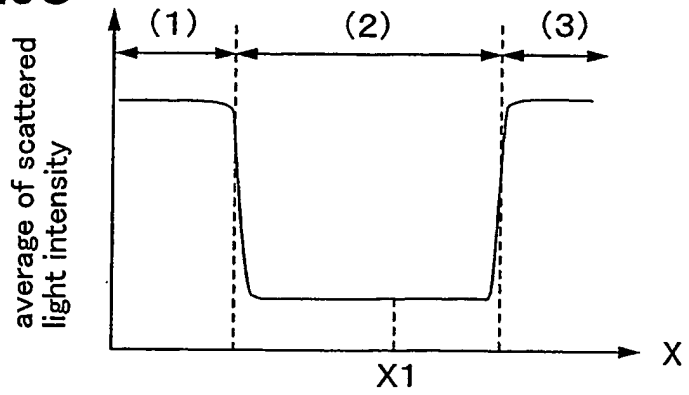


FIG.6C



(1)、(3):large grain size region
(2) :poorly crystalline region

FIG.7A

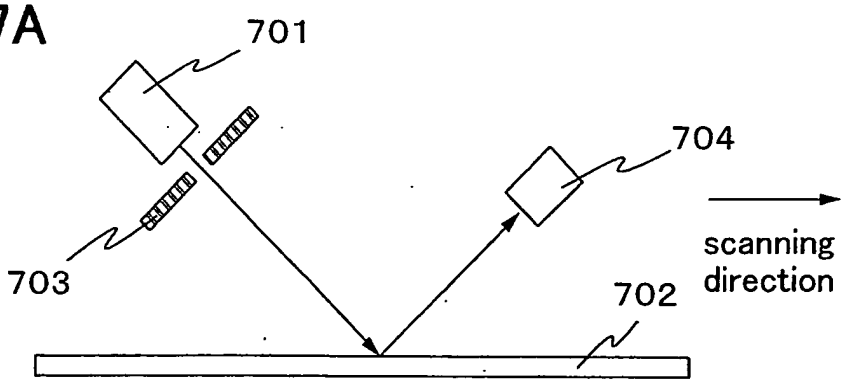


FIG.7B

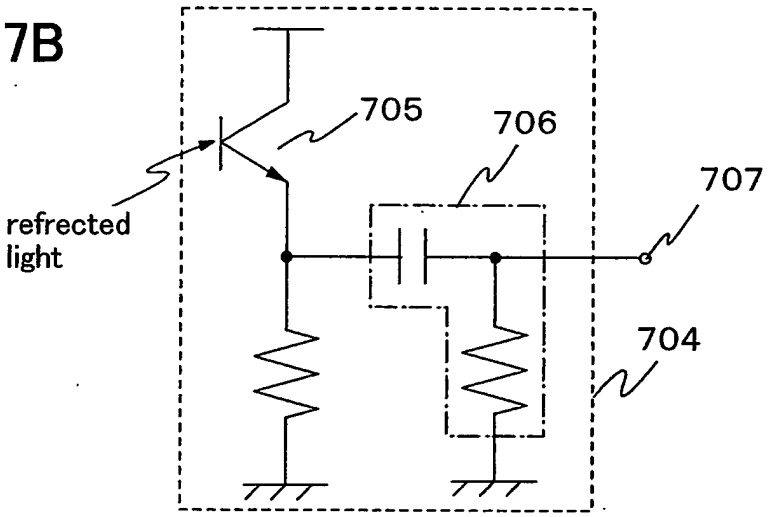


FIG.7C

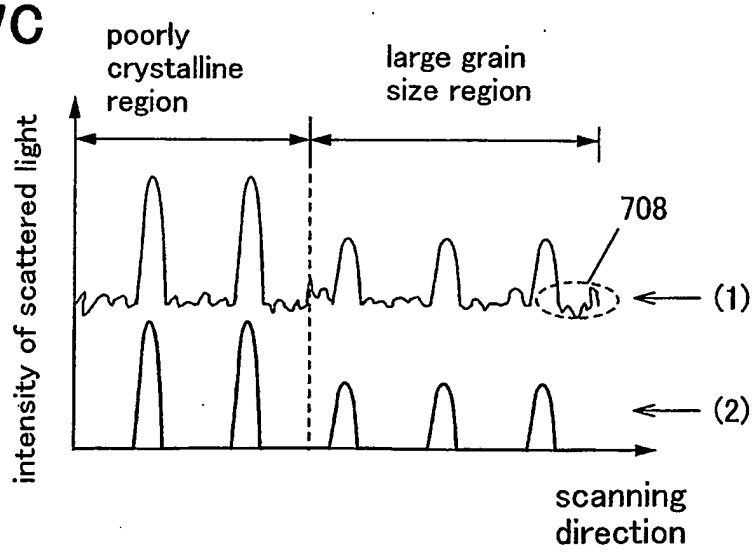


FIG.8A

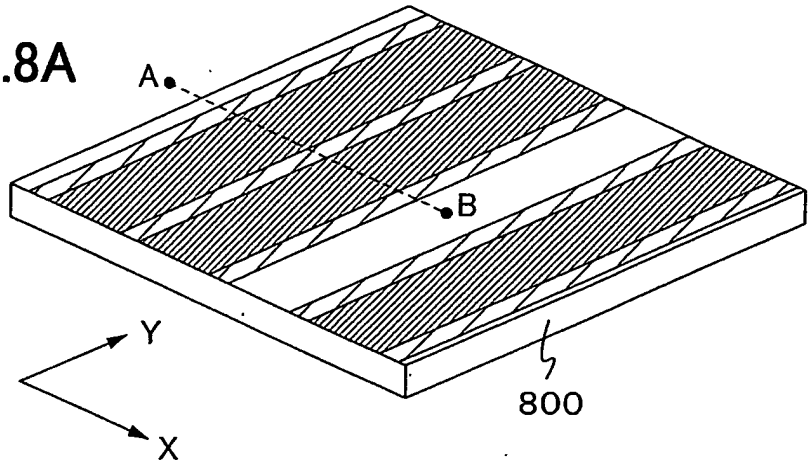


FIG.8B

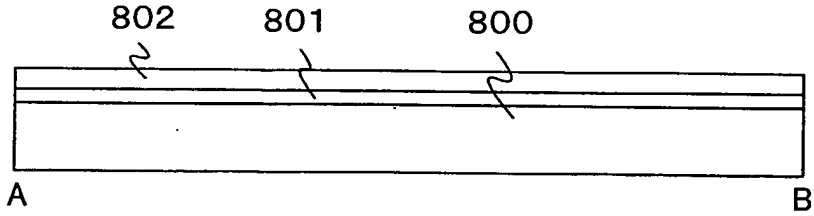


FIG.8C

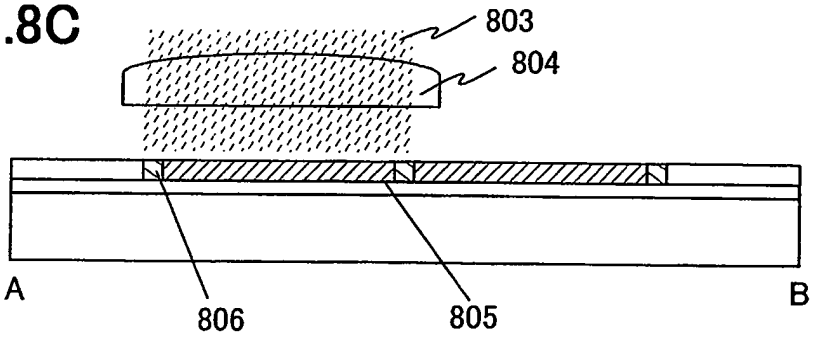


FIG.8D

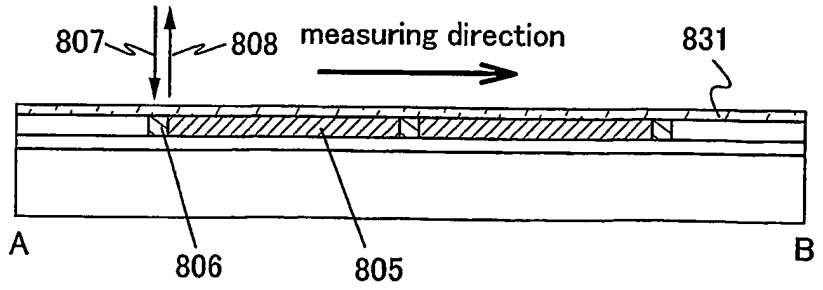


FIG.9A

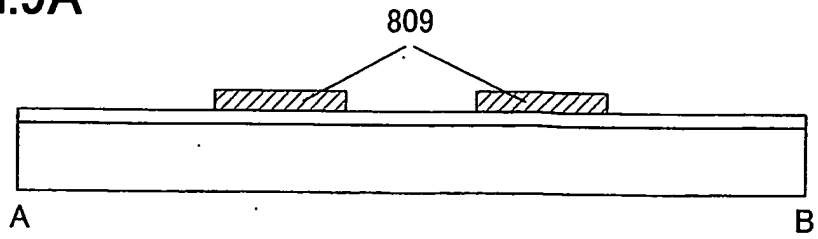


FIG.9B

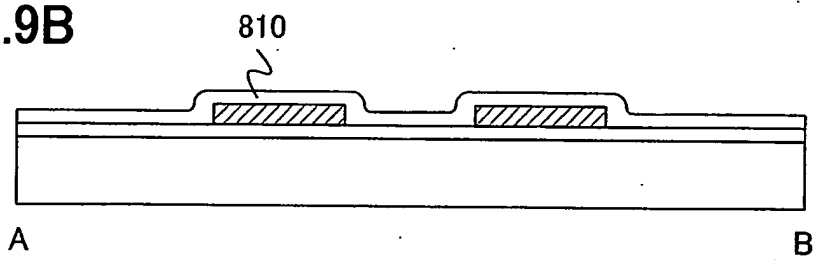


FIG.9C

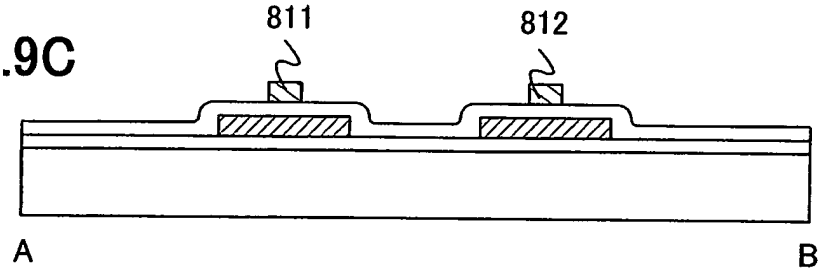


FIG.10A

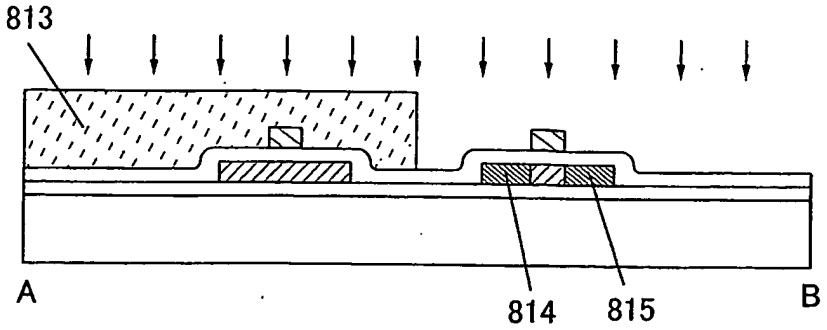


FIG.10B

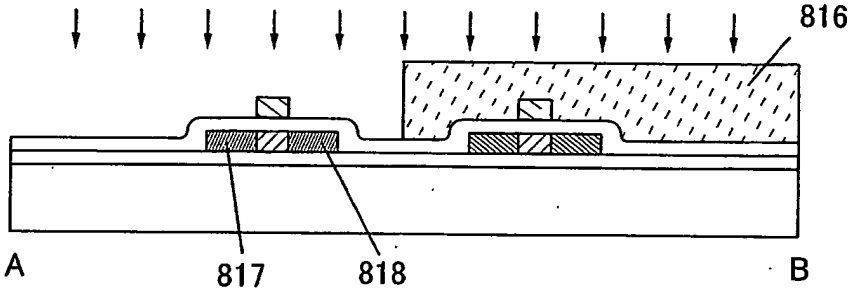


FIG.10C

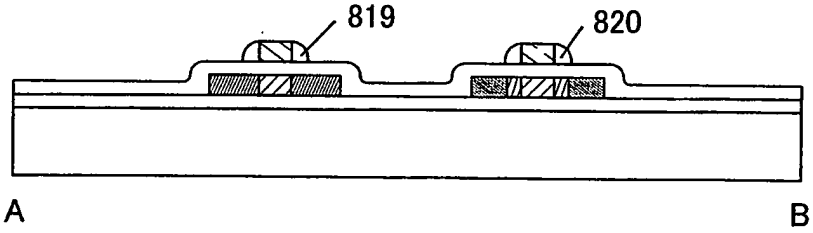


FIG.10D

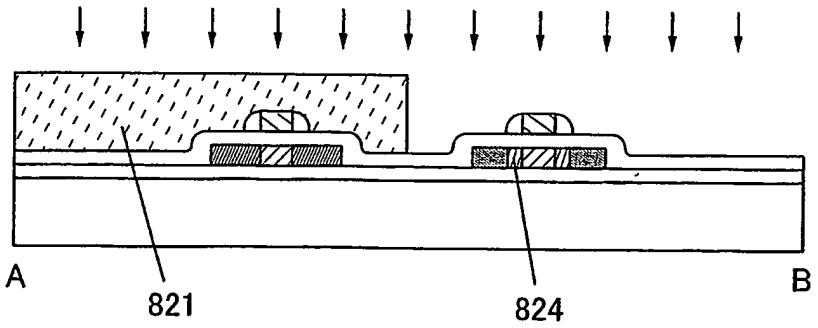


FIG.11A

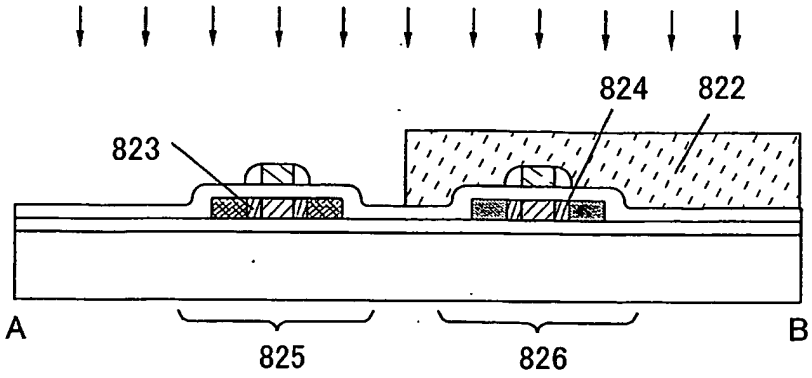


FIG.11B

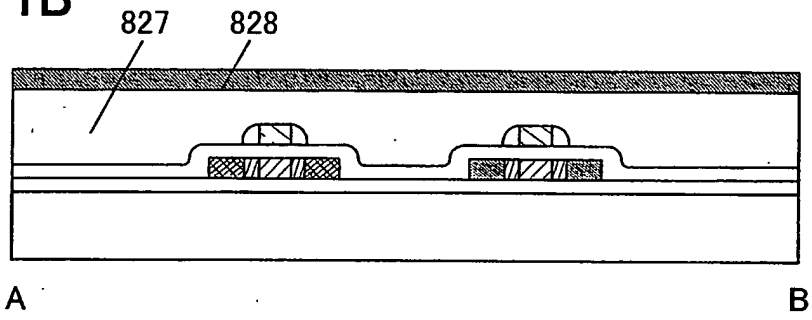


FIG.11C

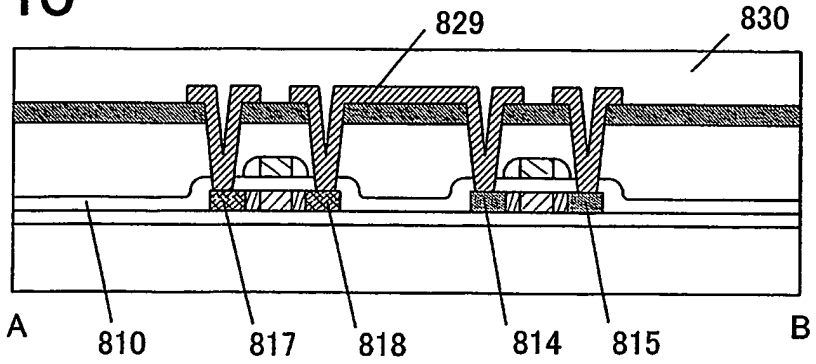


FIG.12

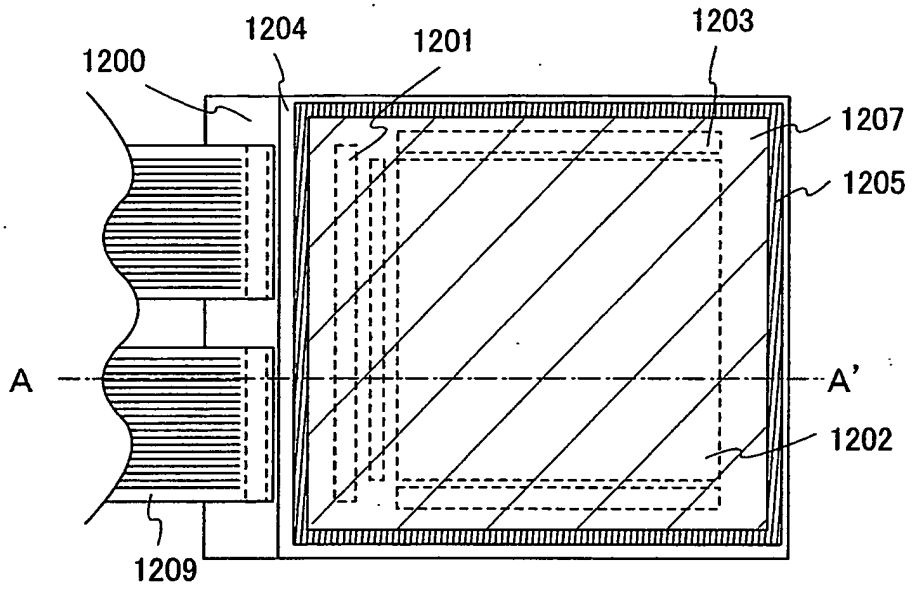


FIG.13

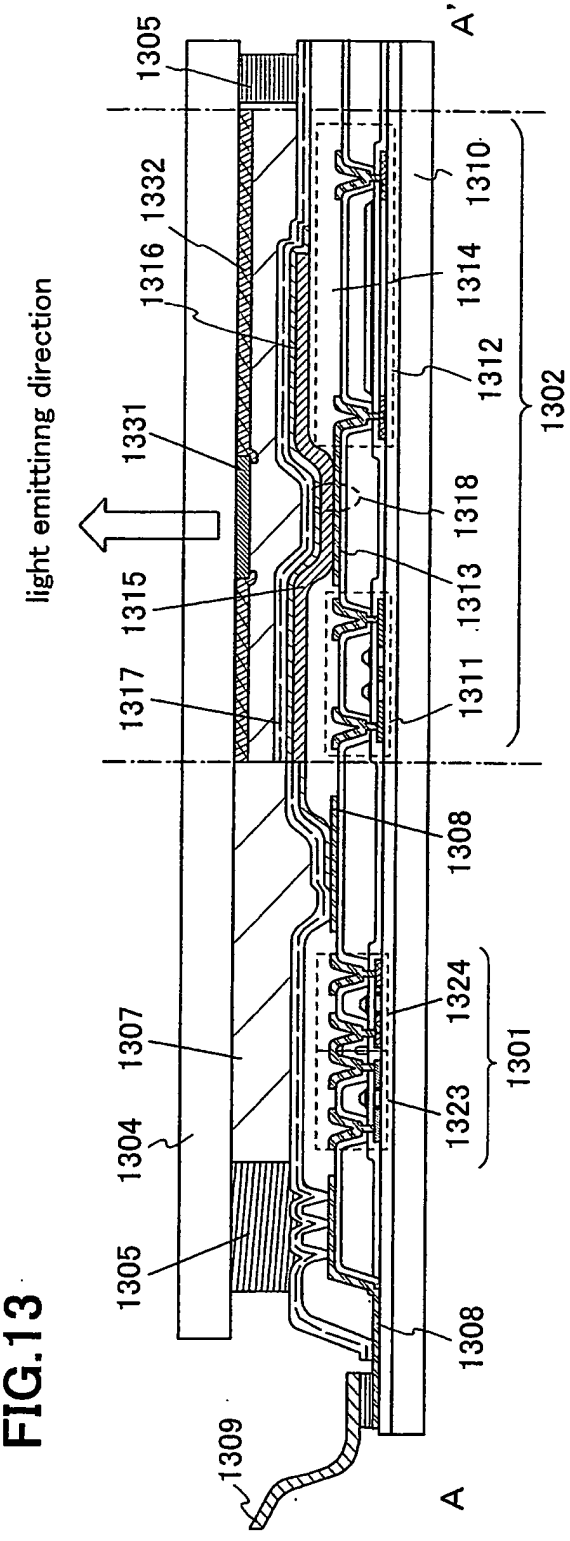

light emittinng direction
A
A'
1301
1302
1304
1305
1307
1308
1309
1310
1311
1312
1313
1314
1315
1316
1317
1318
1323
1324
1331
1332

FIG.14A

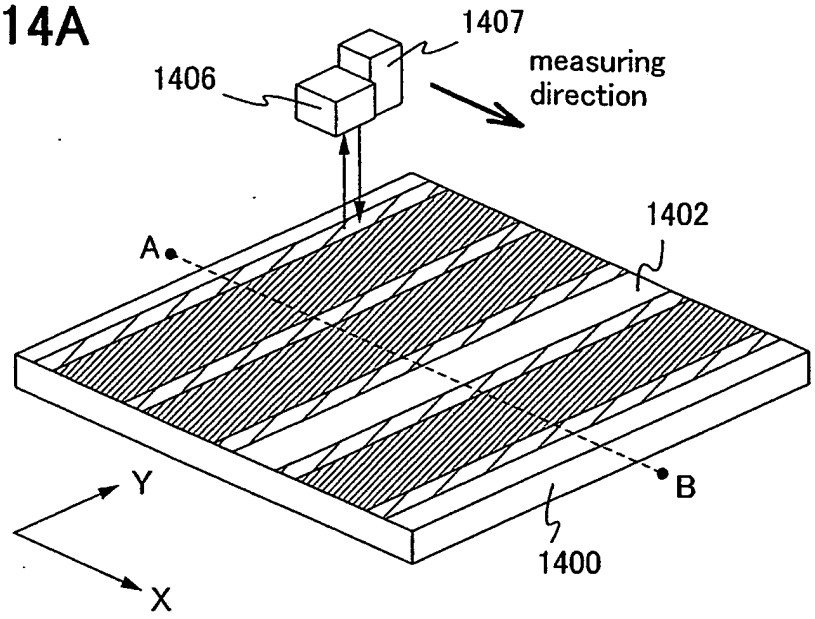


FIG.14B

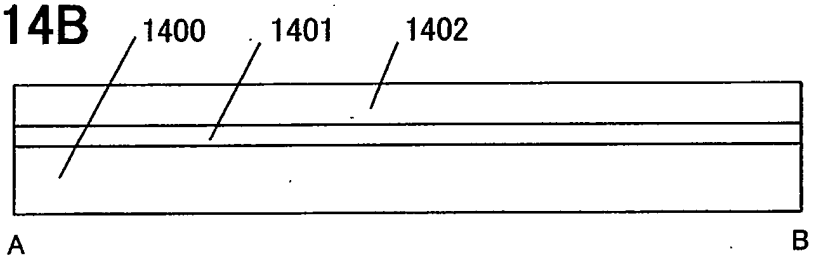


FIG.14C

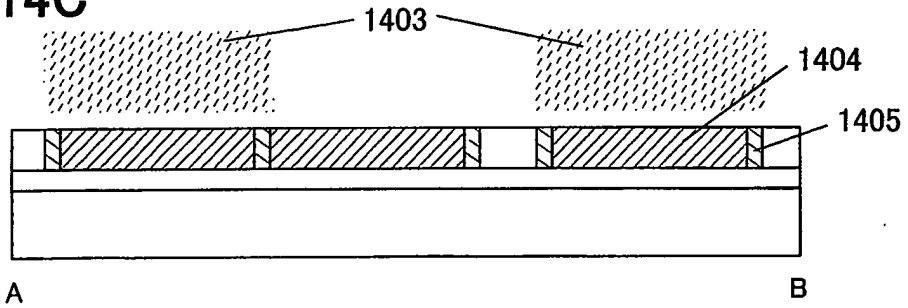


FIG.14D

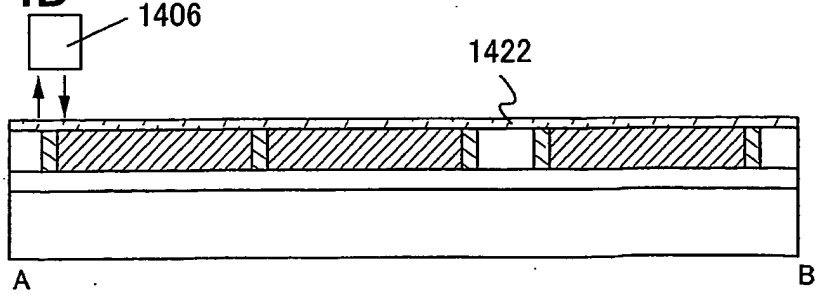


FIG.15A

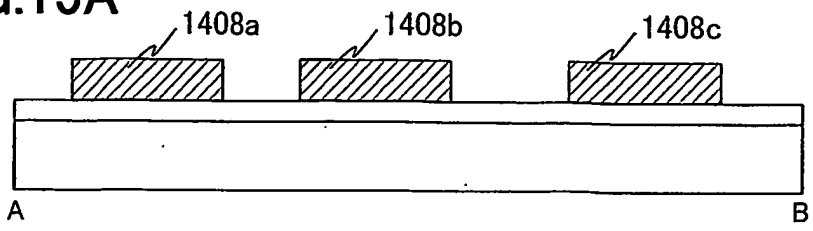


FIG.15B

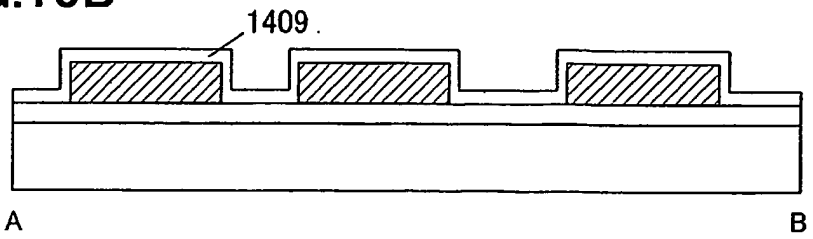


FIG.15C

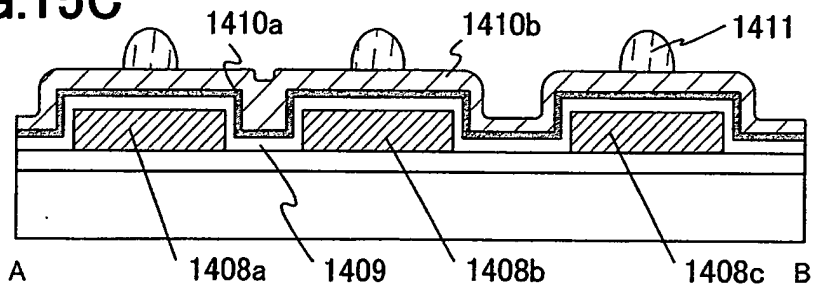


FIG.15D

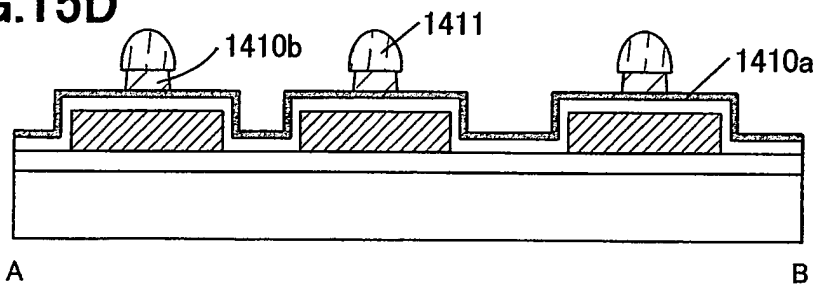


FIG.15E

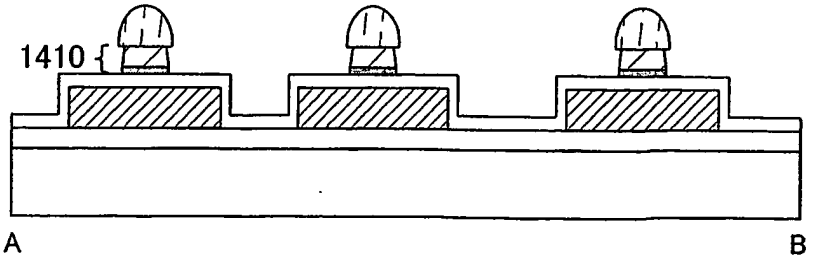


FIG.16A

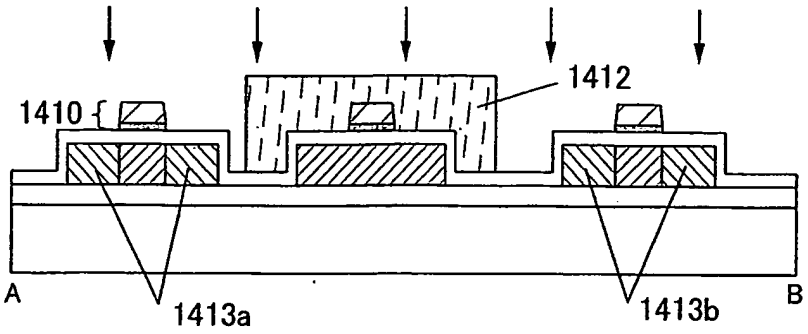


FIG.16B

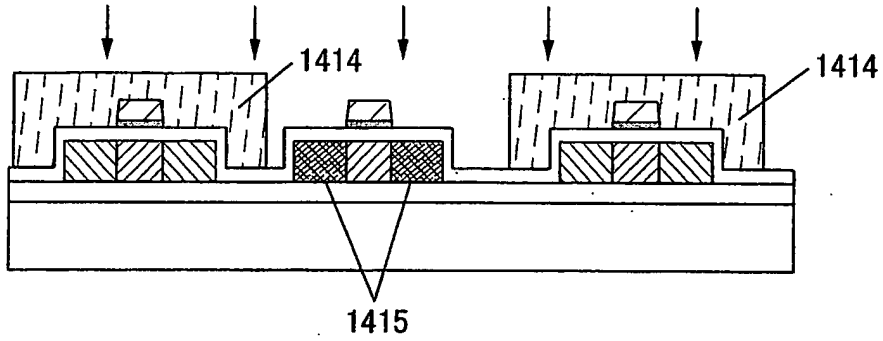


FIG.16C

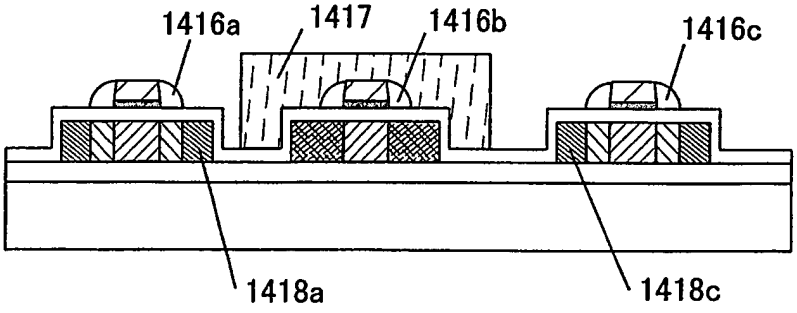


FIG.17A

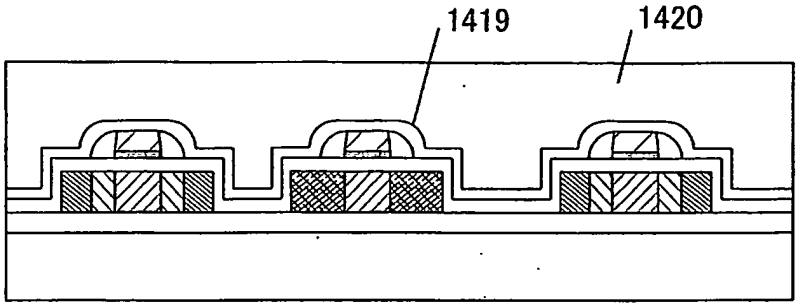
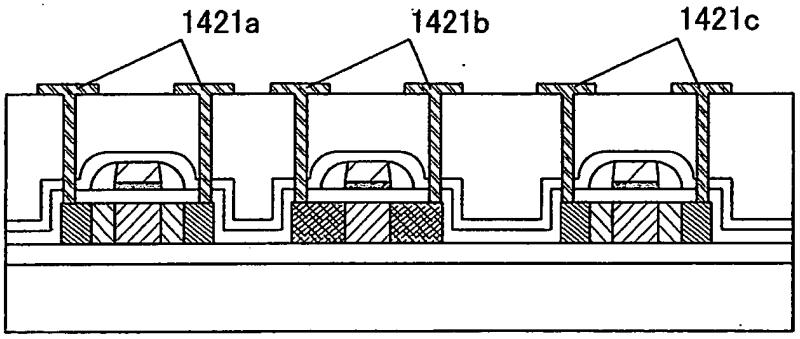


FIG.17B



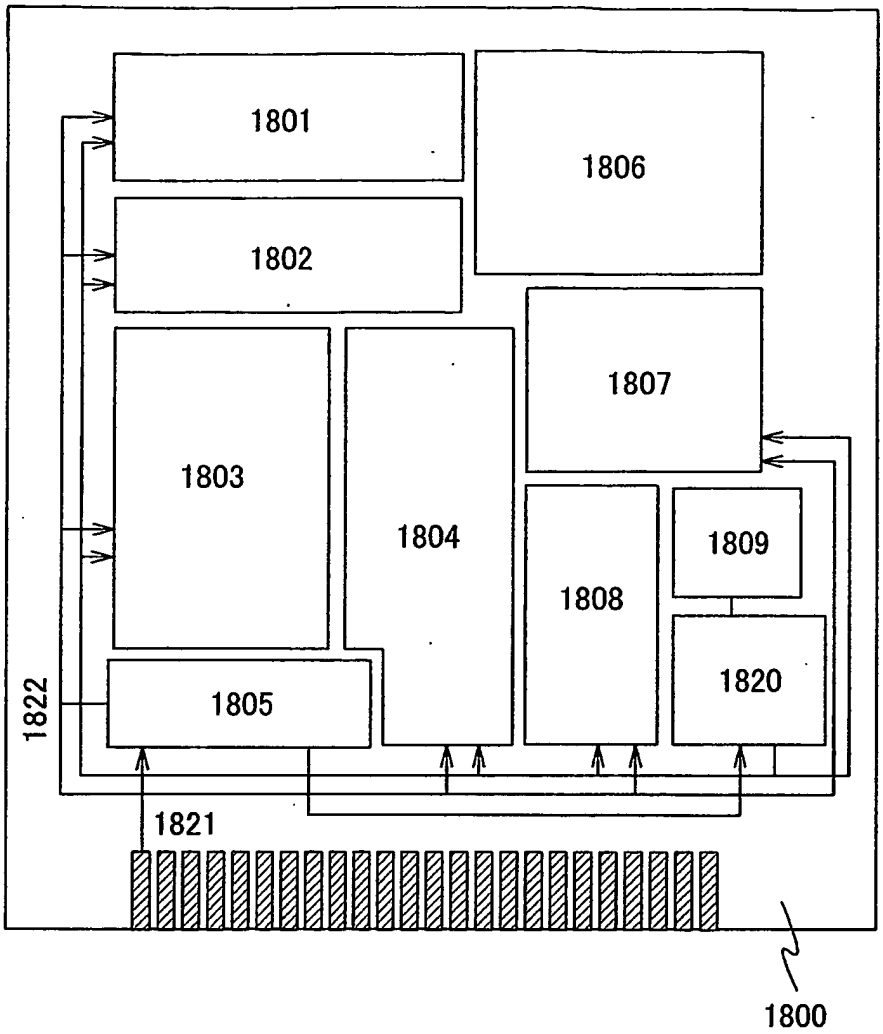

1801
1806
1802
1807
1803
1804
1809
1808
1820
1805
1822
1821
1800

FIG.18

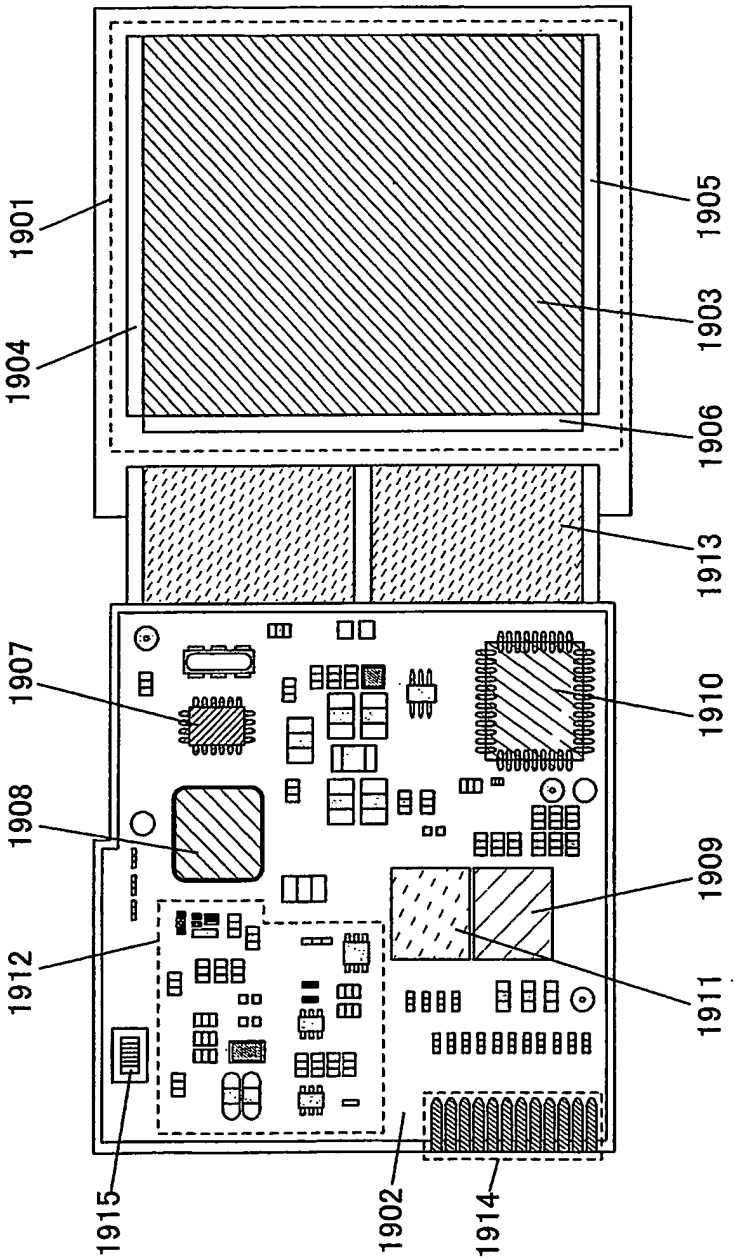

1901
1904
1905
1903
1906
1913
1907
1910
1908
1909
1912
1911
1915
1902
1914

FIG.19

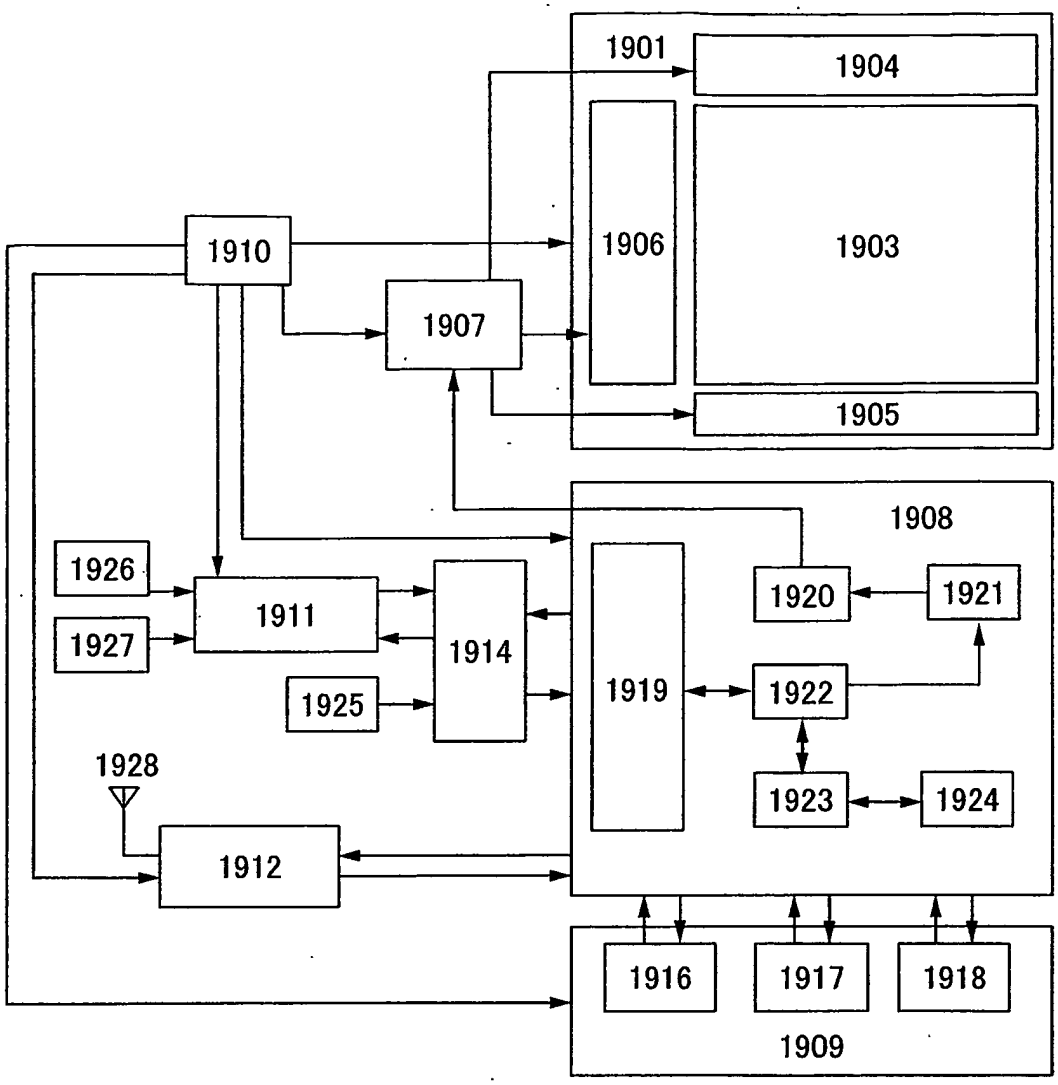

1901
1904
1906
1903
1910
1907
1905
1908
1926
1911
1914
1927
1925
1919
1920
1921
1922
1928
1923
1924
1912
1916
1917
1918
1909

FIG.20

FIG.21A

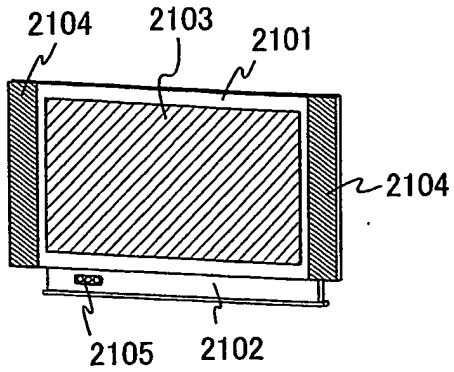


FIG.21B

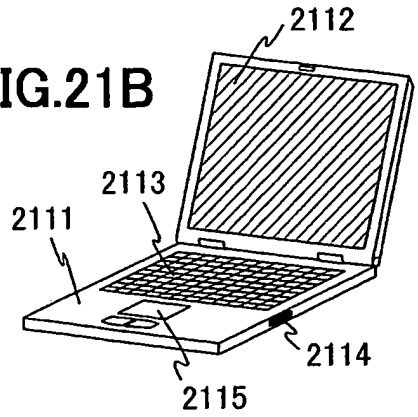


FIG.21C

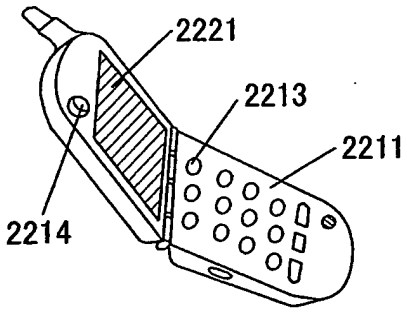


FIG.21D

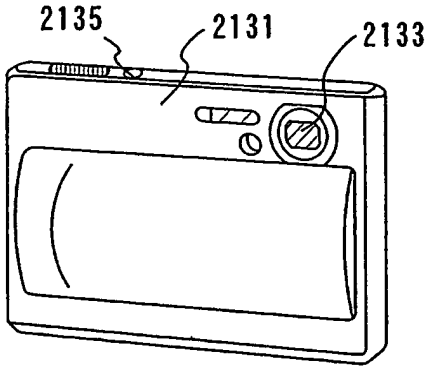


FIG.21E

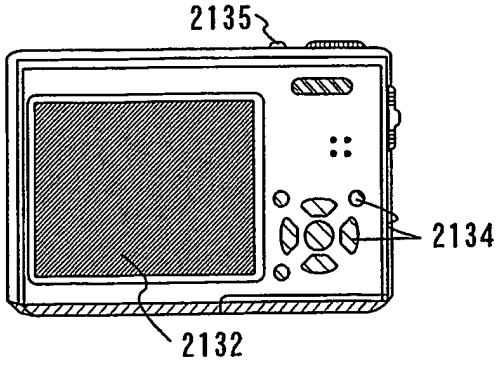


FIG.21F

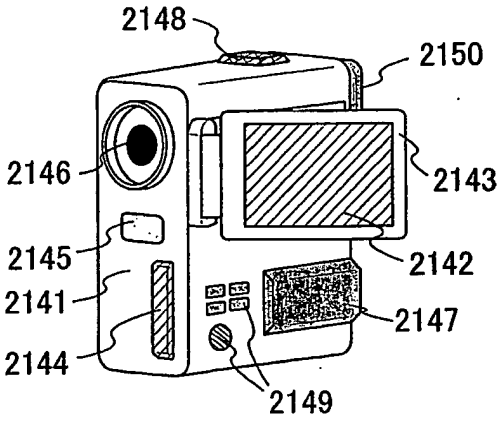


FIG.22A

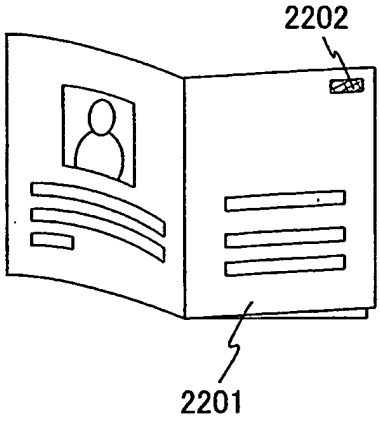


FIG.22B

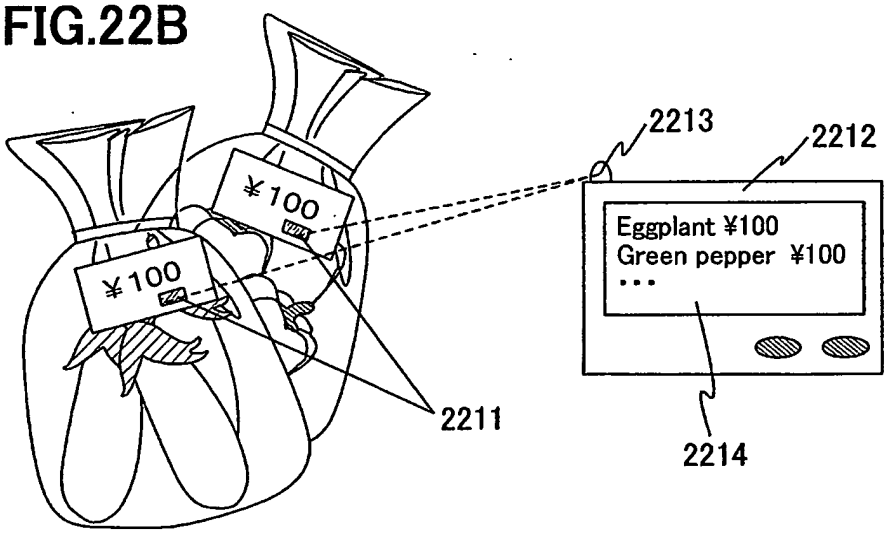


FIG. 23A

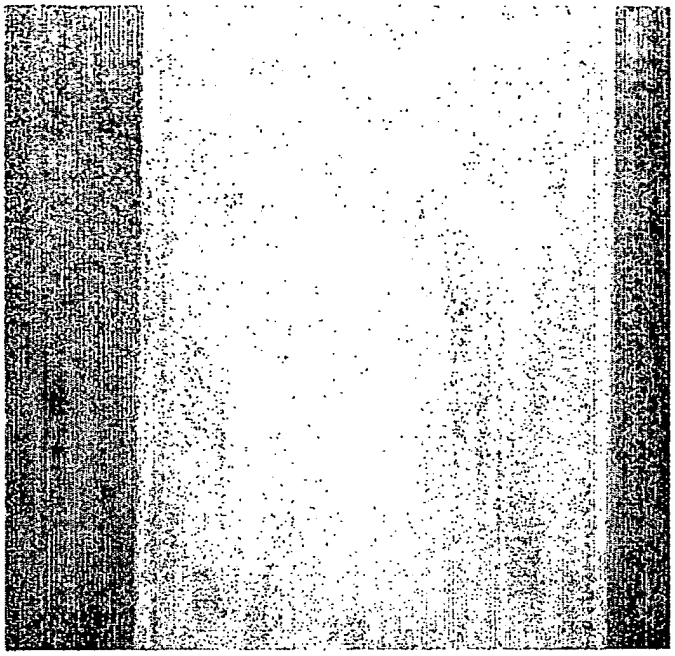


FIG. 23B

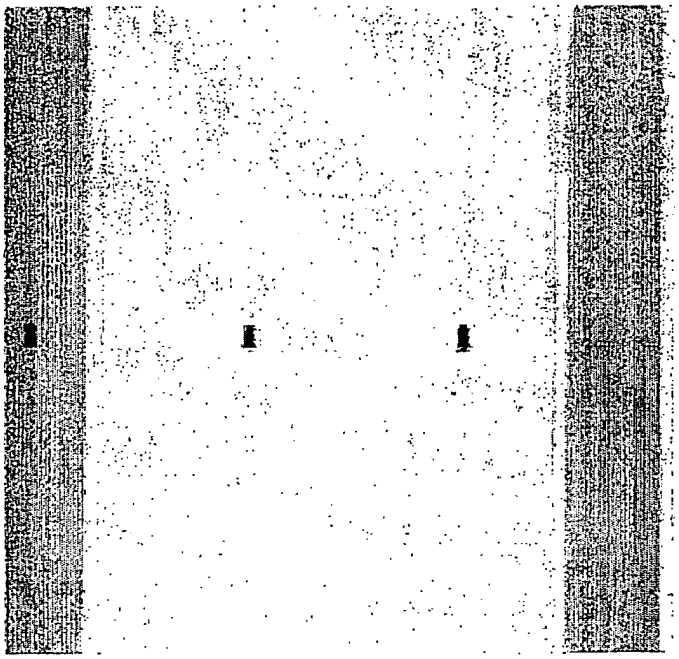


FIG. 24A

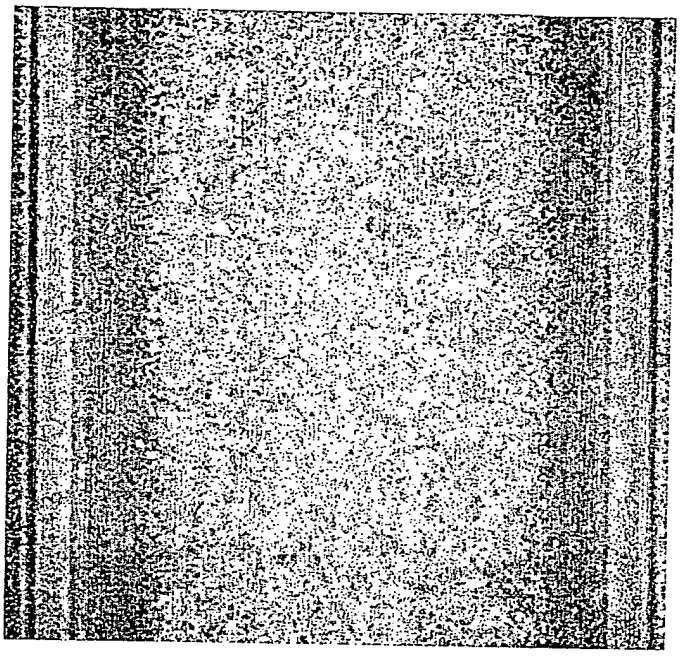


FIG. 24B

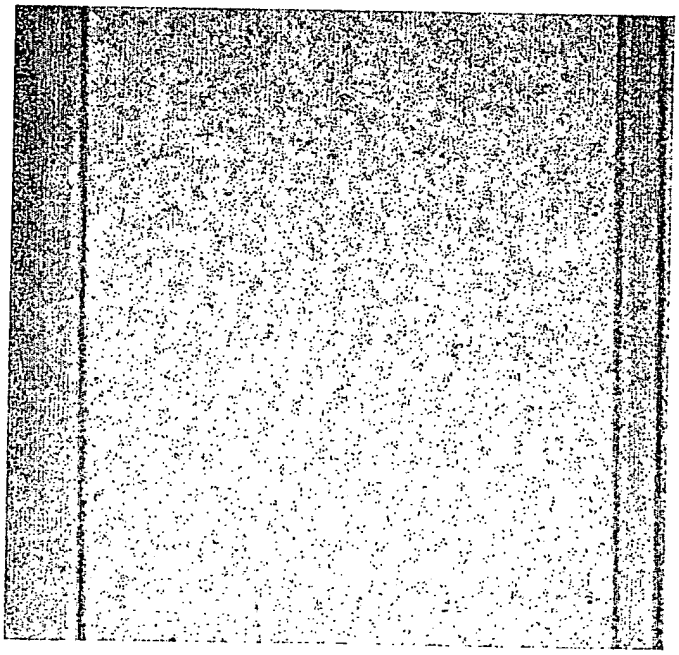


FIG.25A

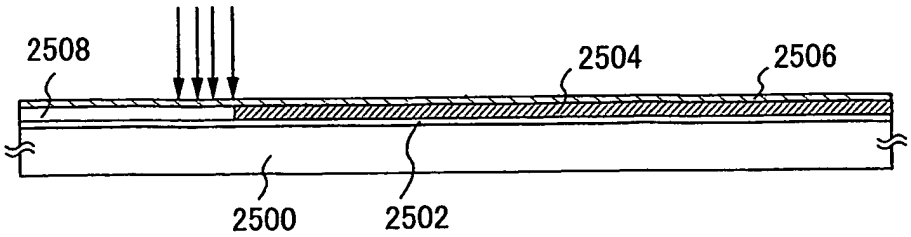


FIG.25B

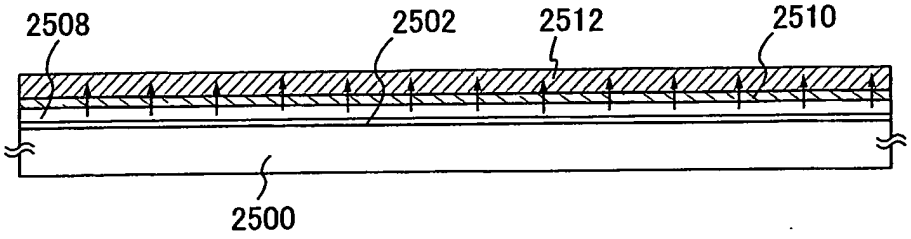


FIG.25C

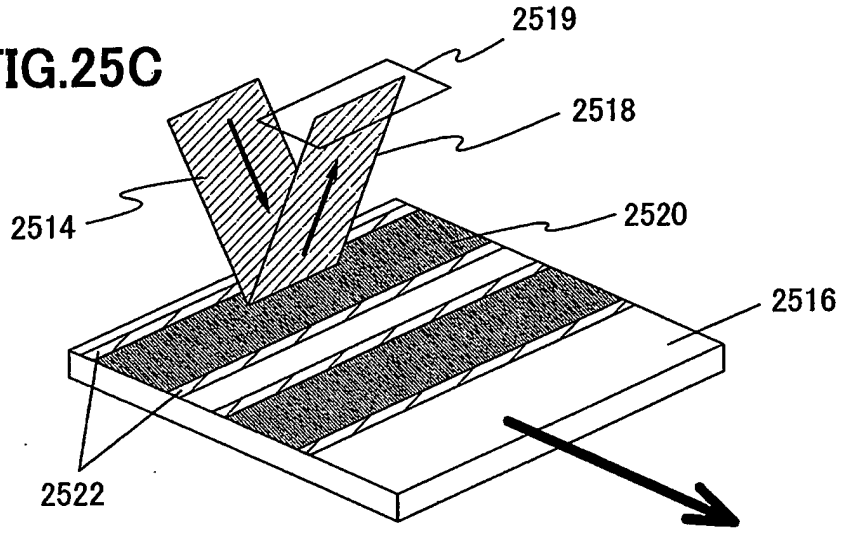


FIG.26A

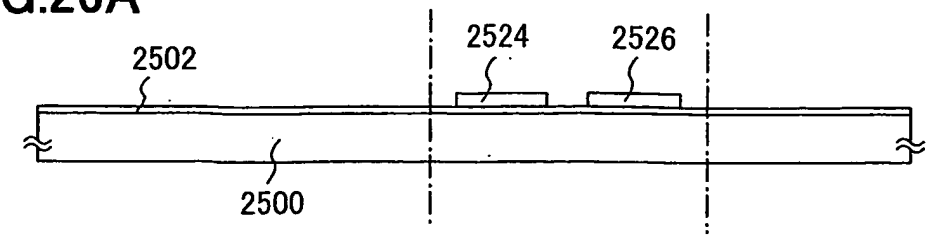


FIG.26B

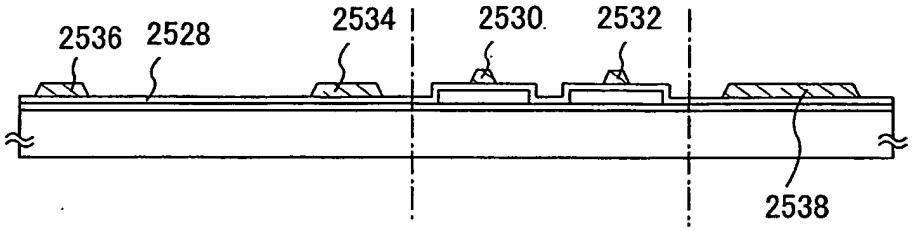


FIG.26C

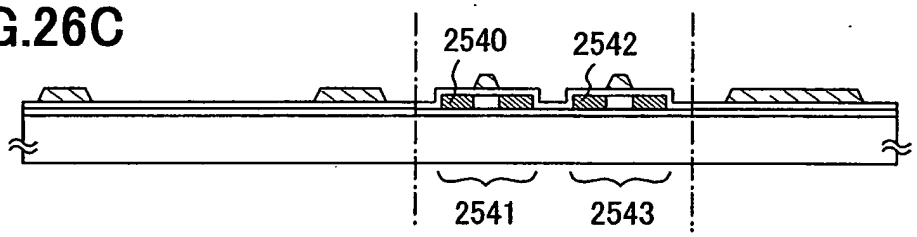


FIG.26D

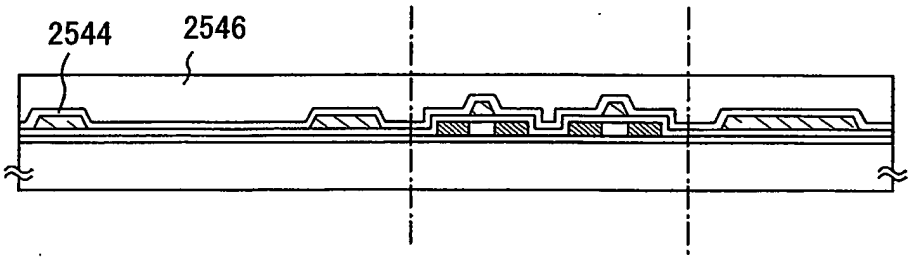


FIG.27A

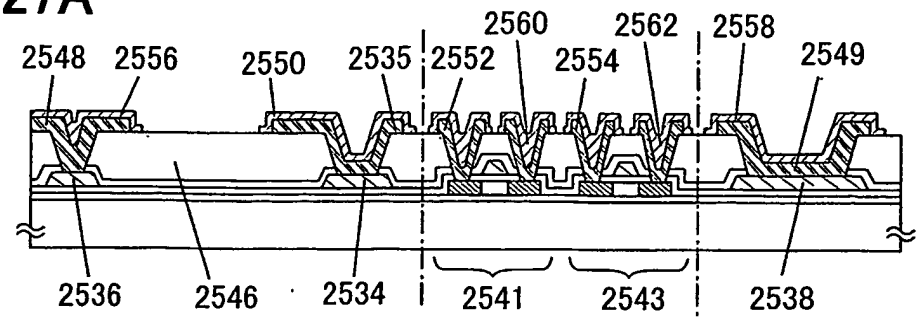


FIG.27B

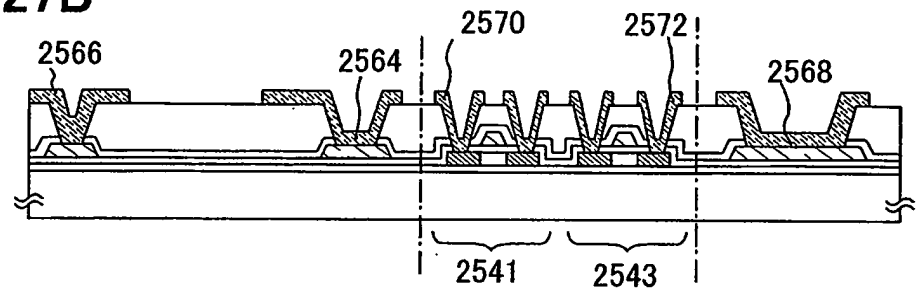


FIG.27C

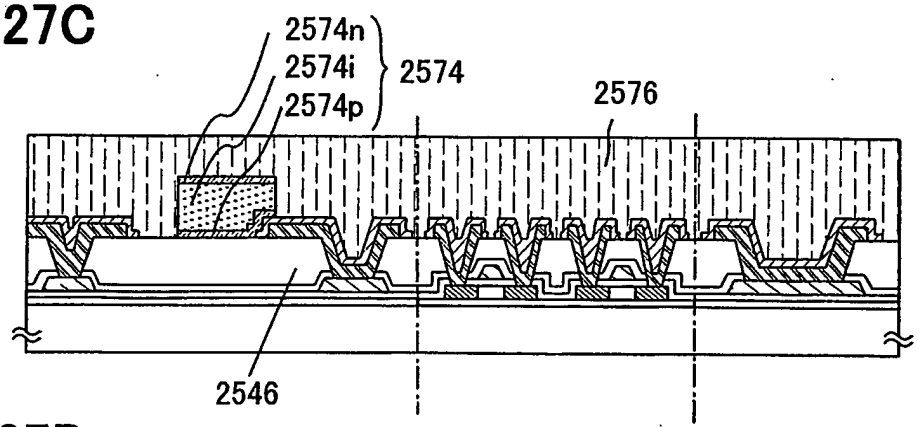


FIG.27D

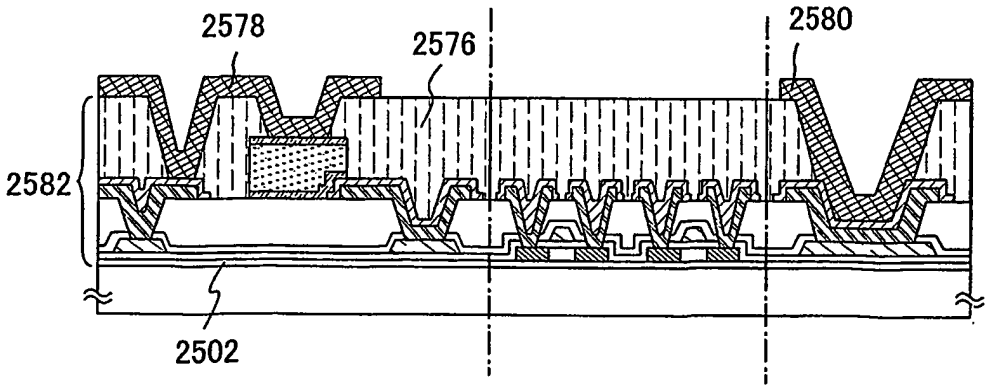


FIG.28A

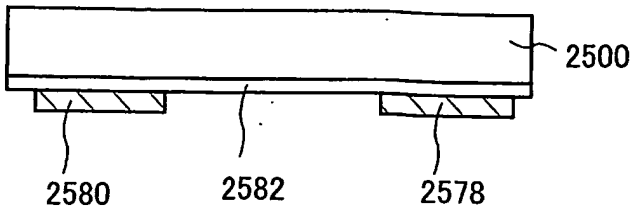


FIG.28B

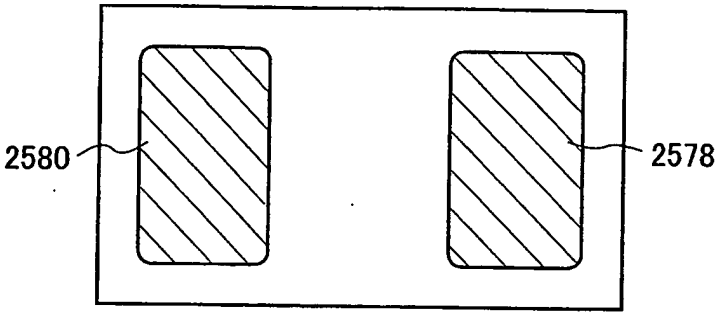


FIG.28C

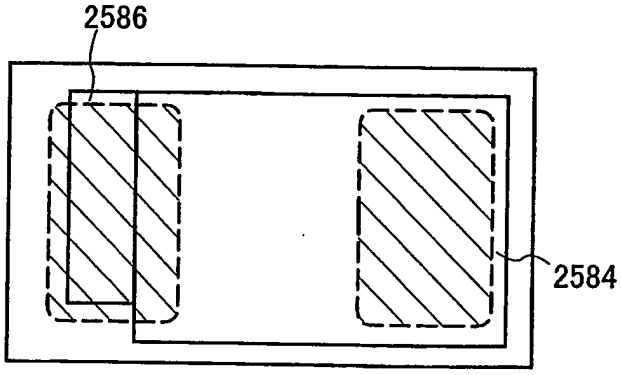


FIG.29A

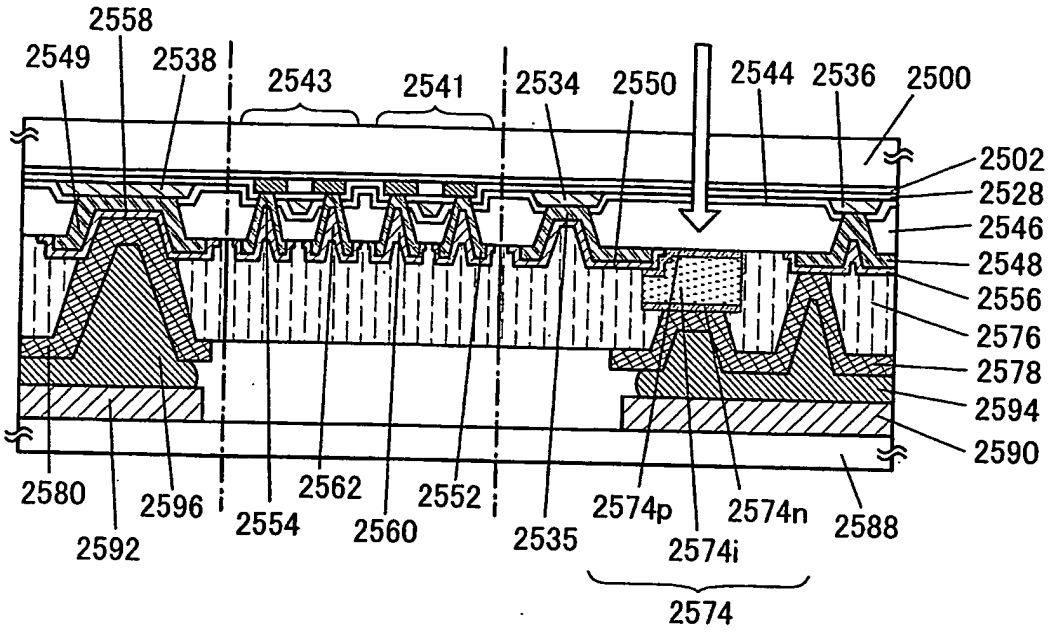


FIG.29B

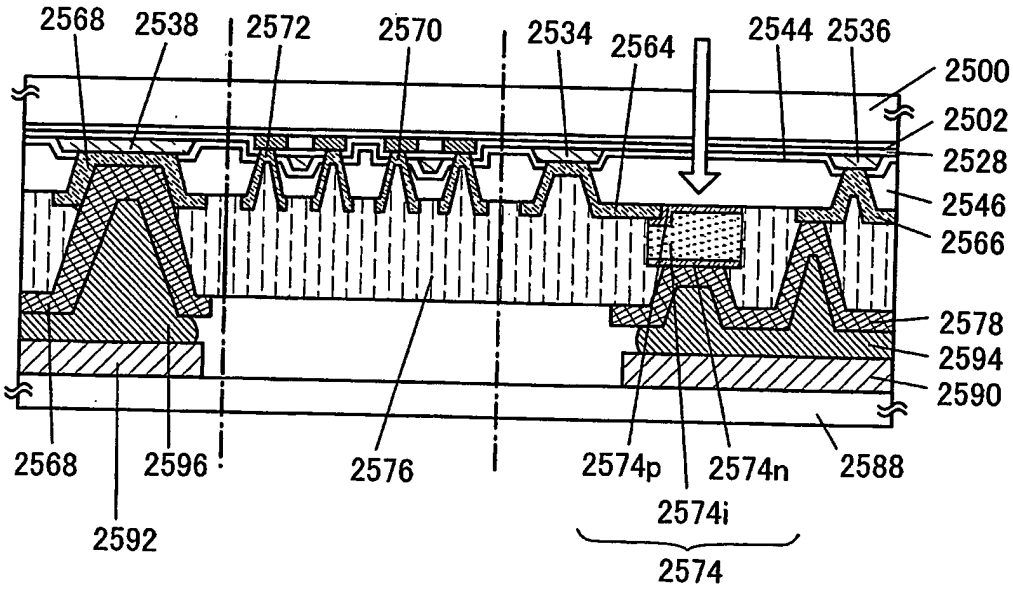


FIG.30A

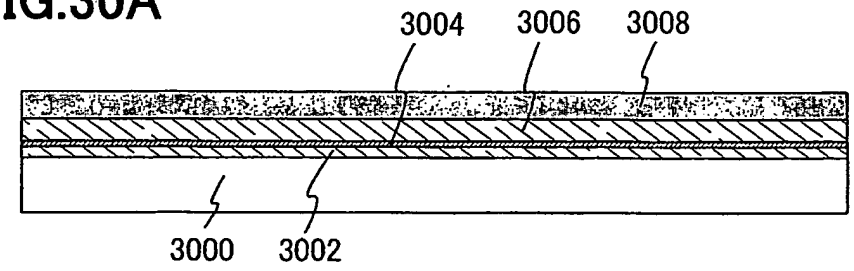


FIG.30B

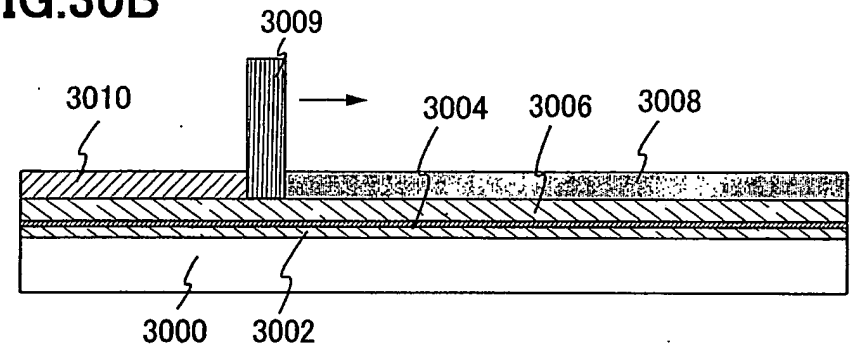


FIG.30C

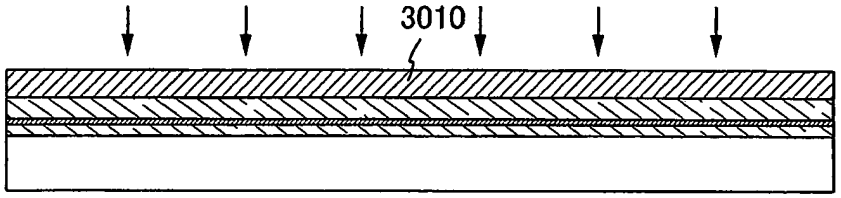


FIG.30D

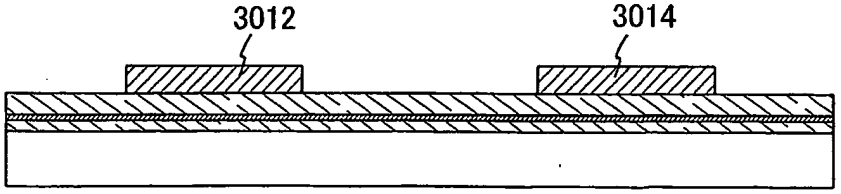


FIG.31A

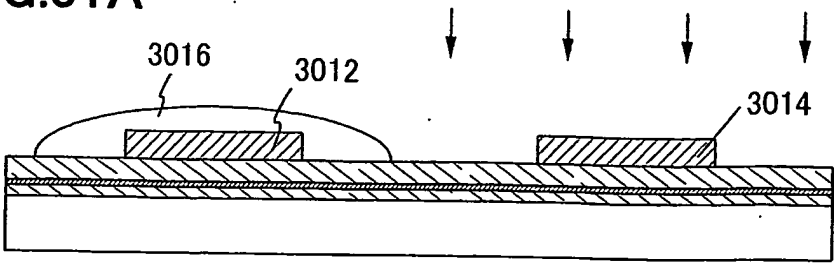


FIG.31B

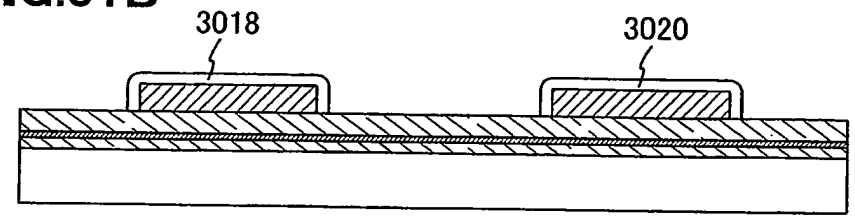


FIG.31C

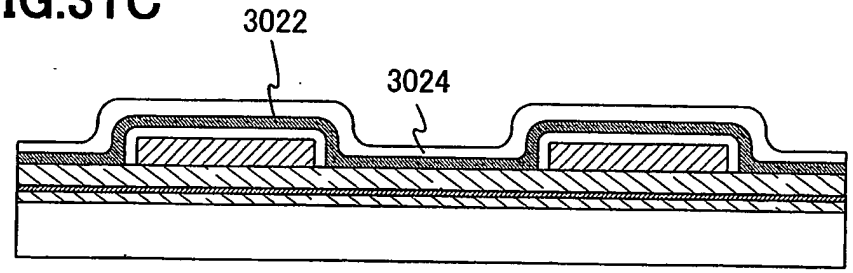


FIG.31D

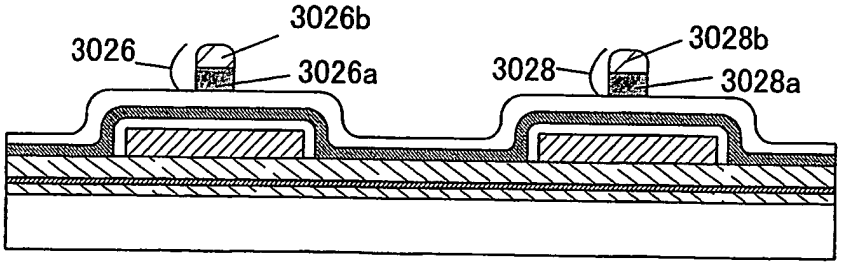


FIG.32A

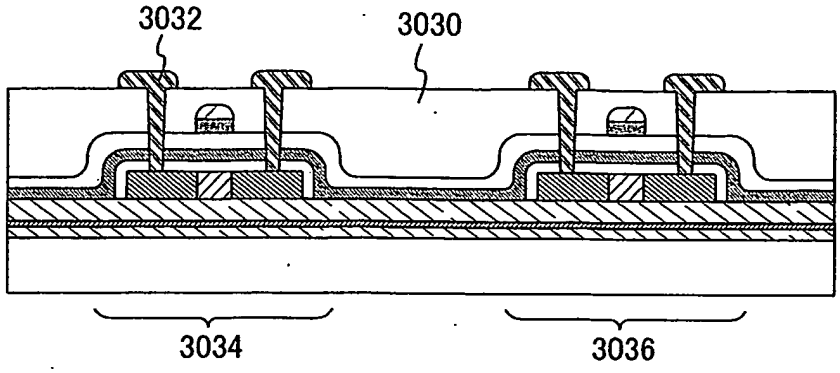
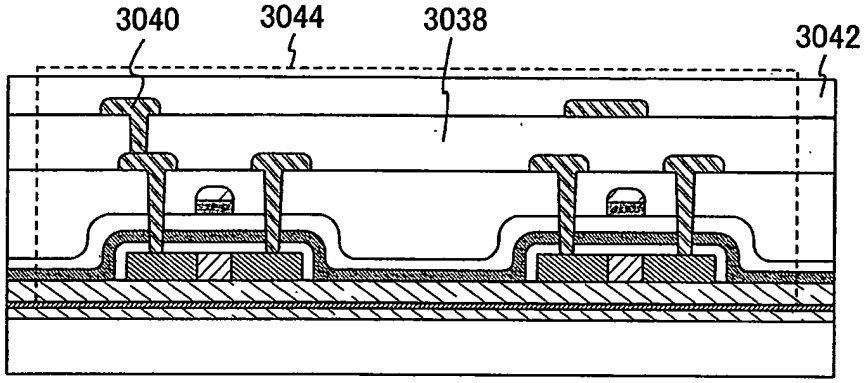


FIG.32B



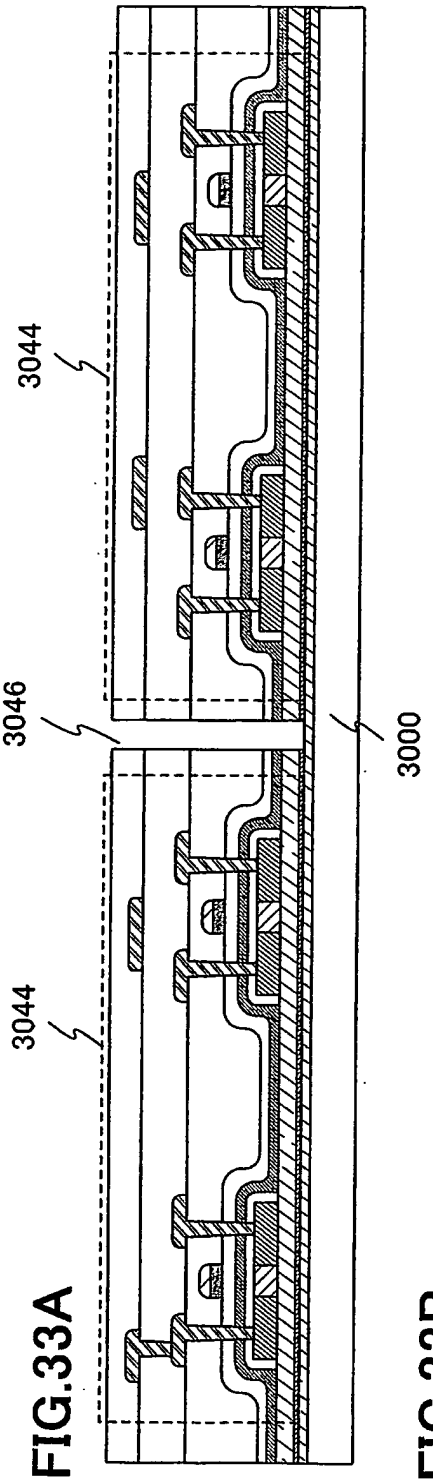


FIG.33A

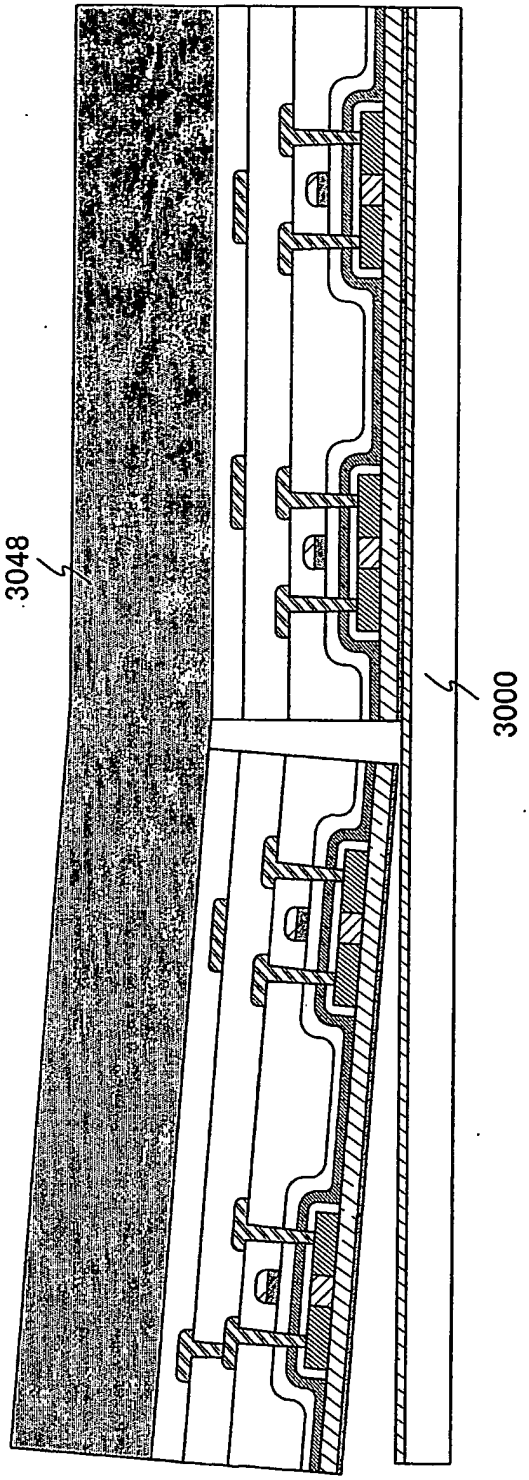


FIG.33B

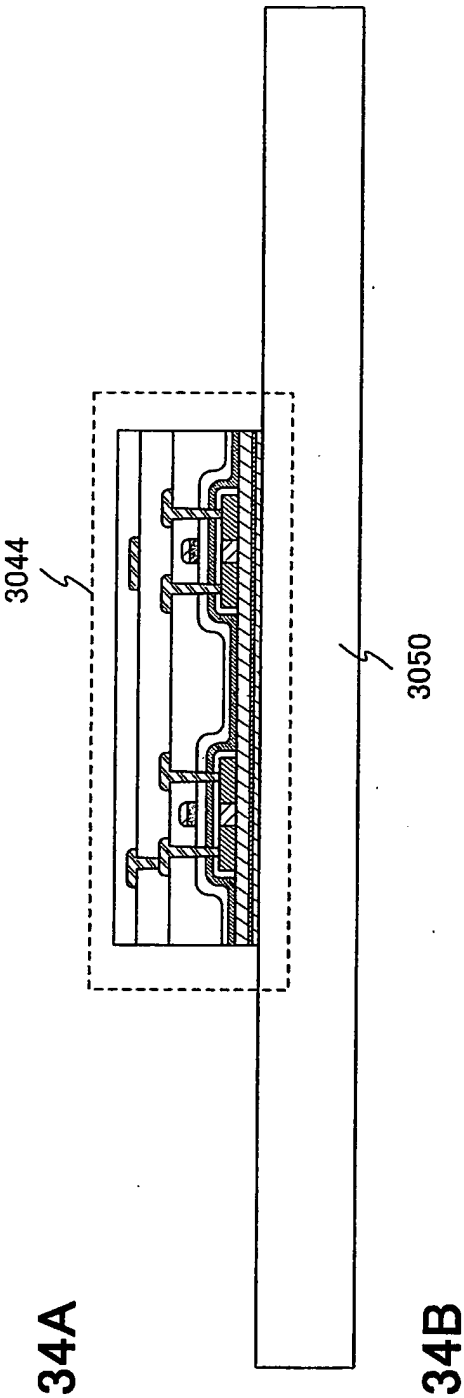


FIG.34A

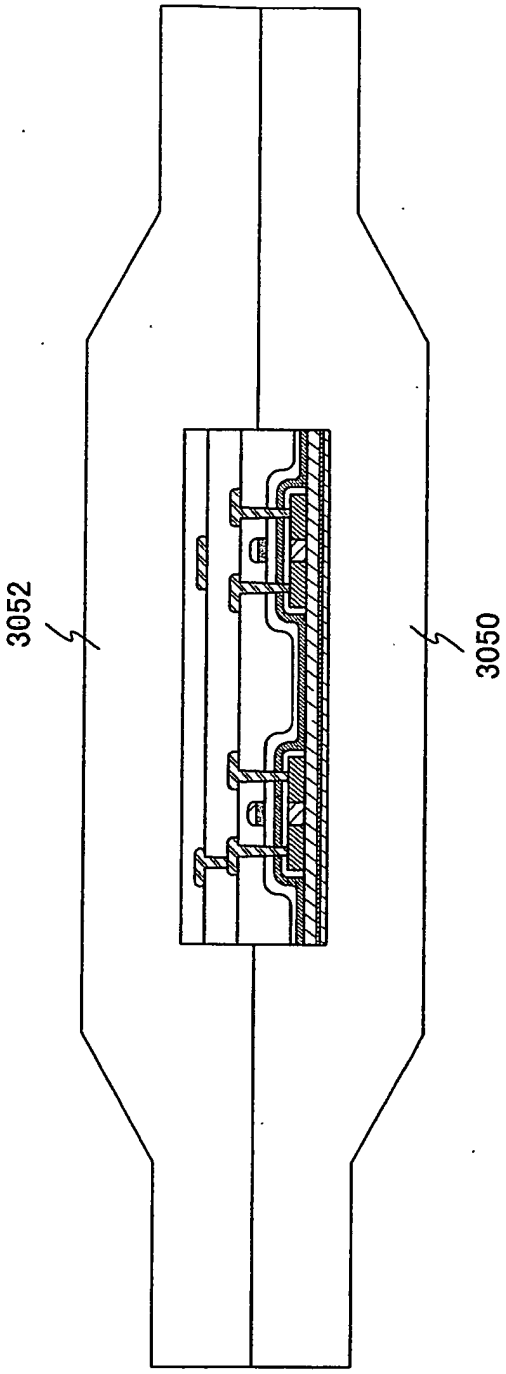


FIG.34B

FIG.35A

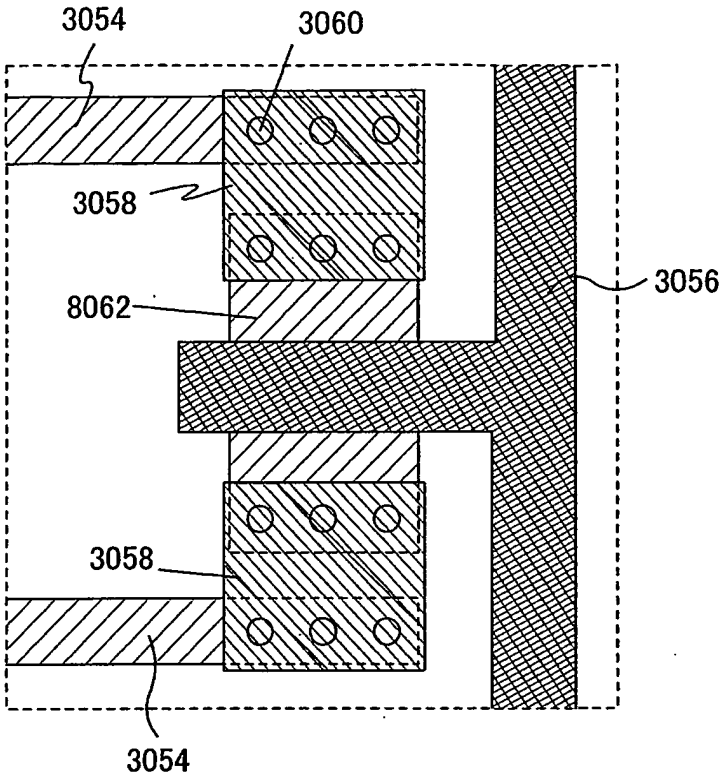
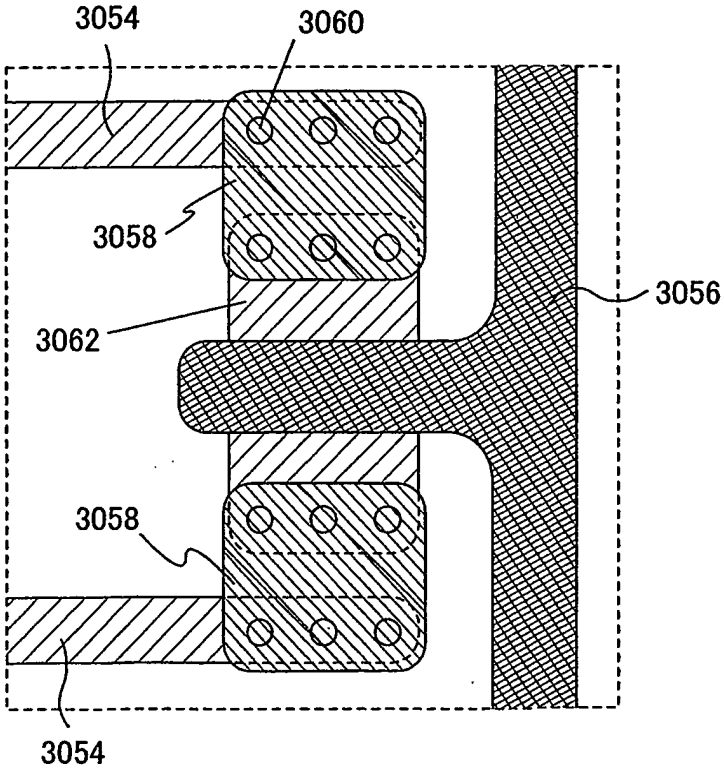


FIG.35B



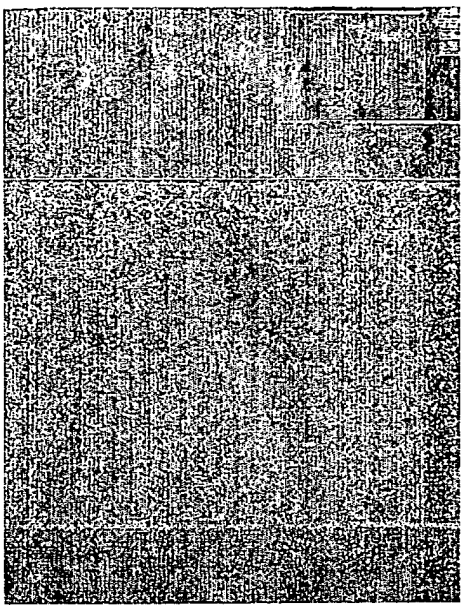


FIG.36C

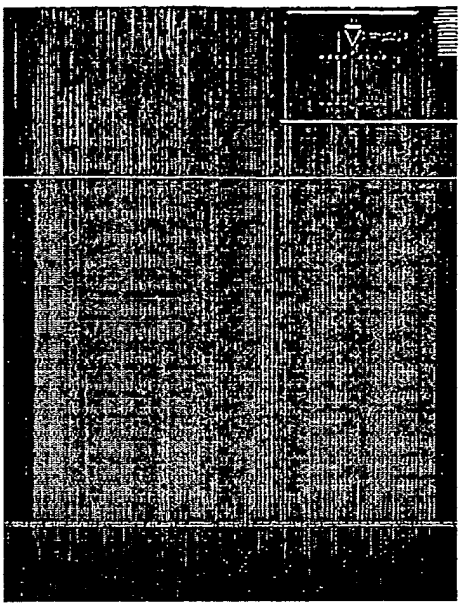


FIG.36D

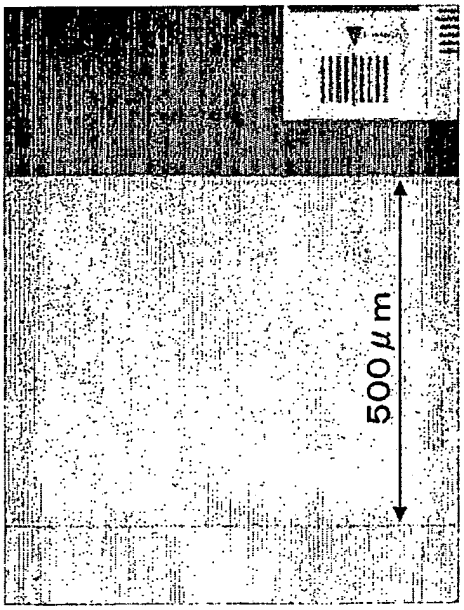


FIG.36A

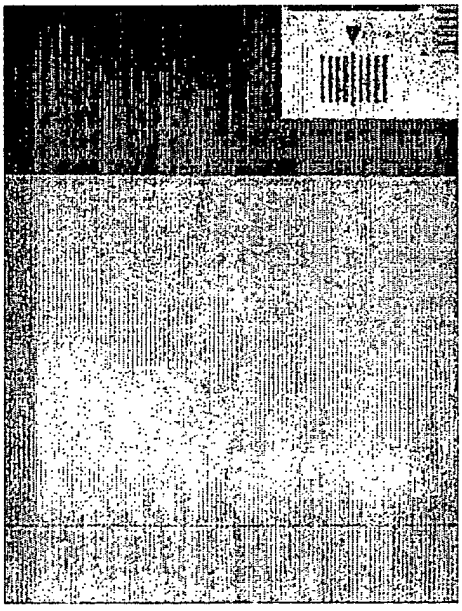


FIG.36B

FIG.37A

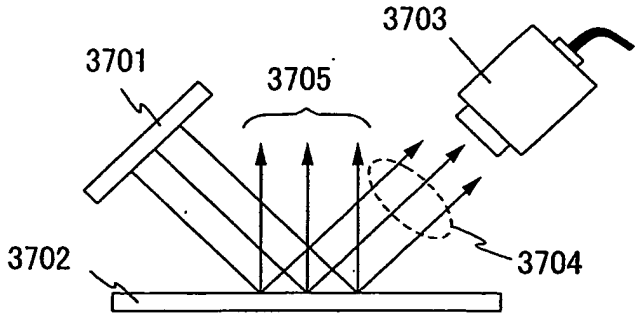


FIG.37B

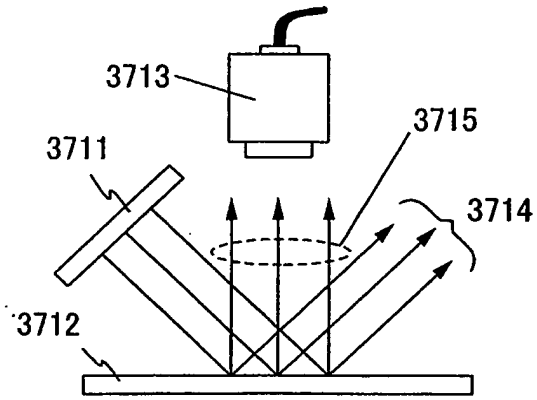


FIG.38A

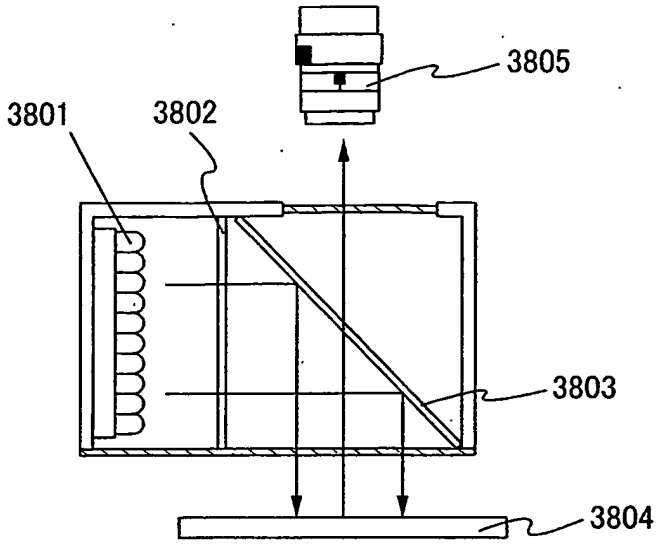


FIG.38B

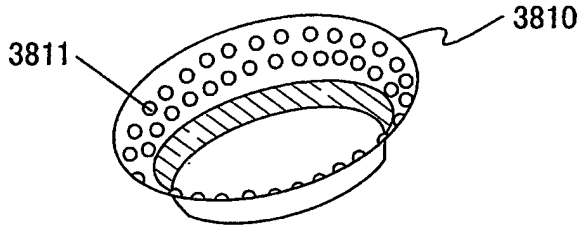
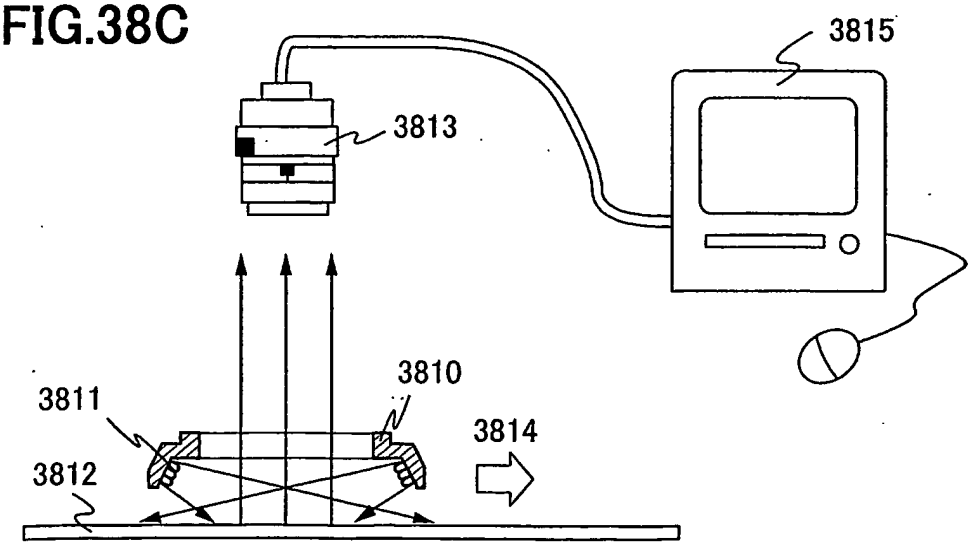


FIG.38C



EXPLANATION OF REFERENCE

101: substrate; 102: non-single crystal semiconductor film, 103: laser irradiation region, 104: CCD camera, 105: light source for light-exposure, 106: beam spot, 107: large grain size region, 108: poorly crystalline region, 201: substrate, 202: non-single crystal semiconductor film, 203: laser irradiation region, 204: large grain size region, 205: laser, 206: optical sensor, 207: poorly crystalline region, 208: light source for light-exposure, 301: solid state laser, 302: solid state laser, 303: solid state laser, 304: substrate, 305: amorphous semiconductor film, 306: beam spot, 307: marker, 308: light source for light-exposure, 309: laser irradiation region, 310: exposed region, 400: substrate, 401: semiconductor film, 402: large grain size region, 403: poorly crystalline region, 601: large grain size region, 602: poorly crystalline region, 603: light, 604: substrate, 605: CCD camera, 701: laser oscillator, 702: irradiated surface, 703: slit, 704: optical sensor, 705: photo detector, 706: high pass filter, 707: output terminal, 800: substrate, 801: base film, 802: amorphous semiconductor film, 803: laser, 804: cylindrical lens, 805: large grain size region, 806: poorly crystalline region, 807: laser light, 808: reflected light, 809: semiconductor film, 810: gate insulating film, 811: gate electrode, 812: gate electrode, 813: resist, 814: source region, 815: drain region, 817: source region, 818: drain region, 819: side wall, 820: side wall, 821: resist, 822: resist, 823: LDD region, 824: LDD region, 825: p-channel TFT, 826: n-channel TFT, 827: insulating film, 828: insulating film, 829: wiring, 830: insulating film, 1200: substrate, 1201: source signal line driver circuit, 1202: pixel portion, 1203: gate signal line driver circuit, 1204: sealing substrate, 1205: first sealing material, 1207: second sealing material, 1208: connection wire, 1209: FPC, 1301: source side driver circuit, 1302: pixel portion, 1304: sealing substrate, 1305: first sealing material, 1306: connection wire, 1307: second sealing material, 1308: connection wire, 1309: FPC, 1310: substrate, 1311: switching TFT, 1312: current controlling TFT, 1313: first electrode (anode), 1314: insulator, 1315: electroluminescent layer, 1316: second electrode (cathode), 1317: transparent protective layer, 1318: electroluminescence element, 1323: n-channel TFT, 1324: p-channel TFT, 1331: coloring layer, 1332: light shielding layer, 1400: substrate, 1401: base insulating film, 1402: amorphous semiconductor film, 1403: laser, 1404: large grain size region, 1405: poorly crystalline region, 1406: photo detector, 1407: light source for light-exposure, 1408a: island-like semiconductor film, 1408b: island-like semiconductor film, 1408c: island-like semiconductor film, 1409: gate insulating film, 1410a: first conductive film, 1410b: second conductive film, 1411: resist mask, 1412: resist mask, 1413a: impurity region, 1413b: impurity region, 1414: resist mask, 1415: impurity region, 1416a: side wall, 1416b: side wall, 1416c:

side wall, 1417: resist mask, 1418a: high concentration impurity region, 1418b: high concentration impurity region, 1419: first interlayer insulating film, 1420: second interlayer insulating film, 1421a: wiring, 1421b: wiring, 1421c: wiring, 1800: substrate, 1801: arithmetic logic unit, 1802: ALU controller, 1803: instruction decoder, 1804 interrupt controller, 1805: timing controller, 1806: register, 1807: register controller, 1808: bus I/F, 1809: ROM, 1820: ROM I/F, 1821: CLK1, 1822: CLK2, 1901: display panel, 1902: printed wiring board, 1903: pixel portion, 1904: first scanning line driver circuit, 1905: second scanning line driver circuit, 1906: signal line driver circuit, 1907: controller, 1908: CPU, 1909: memory, 1910: power supply circuit, 1911: speech processing circuit, 1912: send/receive circuit, 1913: FPC, 1914:I/F, 1915: antenna port, 1901: display panel, 1903: pixel portion, 1904: first scanning line driver circuit, 1905: second scanning line driver circuit, 1906: signal line driver circuit, 1907: controller, 1908: CPU, 1909: memory, 1910: power supply circuit, 1911: speech processing circuit, 1912: send/receive circuit, 1914: interface portion, 1916: VRAM, 1917: DRAM, 1918: flash memory, 1919: I/F, 1920: control signal generation circuit, 1921: decoder, 1922: register, 1923: arithmetic logic unit, 1924: RAM, 1925: input means, 1926: microphone, 1927: speaker, 1928: antenna, 2101: chassis, 2102: support, 2103: display portion, 2104: speaker portion, 2105: video input terminal, 2111: chassis, 2112: display portion, 2113: keyboard, 2114: external connection port, 2115: pointing mouse, 2121: chassis, 2122: display portion, 2123: operation key, 2124: sensor portion, 2131: chassis, 2132:display portion, 2133: lens, 2134: operation key, 2135: shutter, 2141: main body, 2142: display portion, 2143: chassis, 2144: external connection port, 2145: remote control receive section, 2146: image receiving portion, 2147: battery, 2148: audio input portion, 2149: operation key, 2150: eye piece portion, 2201: passport, 2202: wireless IC tag, 2211: wireless IC tag, 2212: reader, 2213: antenna portion, 2214: display portion, 2500: substrate, 2502: base film, 2504: amorphous semiconductor film, 2506: catalyst, 2508: polycrystalline silicon film, 2510: barrier layer, 2512: amorphous silicon film, 2514: light emitted from light source, 2516: semiconductor film, 2518: reflected light, 2519: detecting element, 2520: large grain size region, 2522: poorly crystalline region, 2524: island-like semiconductor film, 2526: island-like semiconductor film, 2528: gate insulating film, 2530: gate electrode, 2532: gate electrode, 2534: wiring, 2536: wiring, 2538: terminal electrode, 2540: source region or drain region, 2542: source region or drain region, 2541: TFT, 2543: TFT, 2544: second interlayer insulating film, 2546: third interlayer insulating film, 2548: connection electrode, 2550: protective electrode, 2552: electrode which is connected to S/D region of TFT 2541, 2554: electrode which is connected to S/D region of TFT 2543, 2556: protective electrode, 2558: protective electrode, 2560:

protective electrode, 2562: protective electrode, 2564: wiring, 2566: connection electrode, 2568: terminal electrode, 2570: S/D electrode of TFT 2541, 2572: TFT, 2543: S/D electrode, 2574: semiconductor layer, 2574p :p-type semiconductor layer, 2574i: i-type semiconductor layer, 2574n: n-type semiconductor layer, 2576: sealing layer, 2578: terminal electrode, 2580: terminal electrode, 2582: device formation layer, 2584: light-receiving portion, 2586: amplifier circuit portion, 2588: substrate, 2590: electrode, 2592: electrode, 2594: solder, 2596: solder, 3701: area light, 3702: semiconductor film, 3703: photo detector, 3704: specular reflection light, 3705: diffuse reflection light, 3711: area light, 3712: semiconductor film, 3713: photo detector, 3714: specular reflection light, 3715: diffuse reflection light, 3801: area light, 3802: diffuser, 3803: half mirror, 3804: semiconductor film, 3805: camera, 3810: lighting device, 3811: LED, 3812: semiconductor film, 3813: photo detector, 3814: direction perpendicular to scan direction of beam spot, 3815: information processor, 8000: first substrate, 8002: insulating film, 8004: stripping layer, 8006: insulating film (base film), 8008: semiconductor film, 8009: laser, 8010: crystalline semiconductor film, 8012: first semiconductor film, 8014: second semiconductor film, 8016: resist mask, 8018: first insulating film, 8020: first insulating film, 8022: second insulating film, 8024: third insulating film, 8026: conductive film, 8026a: first conductive film, 8026b: second conductive film, 8028: conductive film, 8028a: first conductive film, 8028b: second conductive film, 8030: insulating film, 8032: conductive film, 8034: p-type thin film transistor, 8036: n-type thin film transistor, 8038: insulating film, 8040: conductive film, 8042: insulating film, 8044: element group, 8046: opening, 8048: first sheet material, 8050: second sheet material, 8052: third sheet material, 8054: first wiring, 8056: second wiring, 8058: third wiring, 8060: contact hole, 8062: semiconductor film